ERIC Document Resume | **See Instruction Sheet** | **DATE OF RESUME** | **DATE RECEIVED**

A. PUBLICATION DATA

1. ERIC NUMBER: ED001311
2. ORIGINATOR CONTROL NO(S).: NA
3. IDENTIFICATION NO.: NA

4. AUTHOR(S): Karnes, Merle B. et al

5. TITLE OF DOCUMENT ABSTRACTED: Factors Associated with Underachievement and Overachievement of Intellectually Gifted Children

6. PUBLICATION TITLE: NA

7. EDITOR(S): NA

8. PLACE OF ORIGIN
Champaign Community Unit
ORG. Schools, Dept. of Special
ST. Services, Champaign, Ill.
CITY, STATE
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE: Champaign Community Unit School District No. 4, Board of Education, Champaign, Ill.

10. VOL. NA
11. PAGES NA
12. MO./YR. Jul 61
13. TOTAL PP. 92

DO NOT WRITE IN SPACE BELOW

MICROFILM COPY AVAILABLE
YES ☒ NO ☐

COPYRIGHT GRANTED
YES ☐ NO ☒

COPYRIGHT RELEASE FILED
YES ☐ NO ☒

TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR: report

16. INDEXING TERMS (6-12)
underachievement overachievement gifted characteristics parental attitudes
self-concept creativity social maturity students

17. ABSTRACT (MAX. 250 WORDS)

The relationship of certain variables with the academic achievement of pupils of superior intellectual ability was presented. The hypothesis used was that high achieving academically gifted pupils compared to low achieving academically gifted pupils received the benefit of more favorable parental attitudes; the pupils percieved themselves as more accepted and more intrinsically valued by their parents, were more creative, more socially mature, and more realistic in their self-concepts.

Pupils used came from two large elementary schools and were screened by the 1937 Stanford-Benet Intelligence Test. Forty-one overachievers and forty-one underachievers used were differentiated by grade achievement.

Parents attitudes were measured by the Parental Attitude Research Instrument and the Attitudes of Parents Scale. Perceived parent attitudes were measured by the Perceived Parent Attitudes Scale. Other tests were California Test of Personality, Rogers Test, and Guilford Tests.

Results of the investigation showed that parents of overachievers were less authoritarian-controlling and less hostile-rejecting. The overachieving pupils felt more accepted and intrinsically valued by their parents, as well as feeling more accepted by their peers. These pupils also had a more realistic self-concept. They were no different from the underachievers in social maturity but they had a higher degree of creativity.

Implications of findings for educational programs were in areas of administrative and organizational planning, methods, teacher, and materials.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION

20. DIVISION OR DEPT.

21. CONTRACT NO.

PROJECT NO.

22. TOTAL COST OF PROJECT

23. DURATION OR PROJECT

U.S. Department of Health, Education, and Welfare
Office of Education

ERIC Form 1

Factors Associated with Underachievement and Overachievement of Intellectually Gifted Children

REPRINTED BY PERMISSION
U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN PRINTED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

FACTORS ASSOCIATED WITH UNDERACHIEVEMENT AND OVERACHIEVEMENT OF INTELLECTUALLY GIFTED CHILDREN

Prepared by:

Merle B. Karnes, Research Project Chairman,
Director of Special Services
George F. McCoy, Chief Psychologist
Richard Reid Zehrbach, Psychologist
Janet P. Wollersheim, Psychologist
Harvey F. Clarizio, Psycholgist
Lela Costin, Social Worker
Lola S. Stanley, Consultant for Gifted

Champaign Community Unit Schools
Department of Special Services
July, 1961

Published by the Board of Education
Community Unit School District No. 4
Champaign, Illinois

ACKNOWLEDGEMENTS

This research project was made possible under the provisions of House Bills 57 and 58, of the Seventy-First General Assembly of the State of Illinois which allocated funds encouraging local school systems to conduct pilot studies on the gifted. We are indebted to the legislatures for their wisdom and foresight in enacting a law which facilitates study projects on the educational needs of gifted children. The findings of such studies should enhance the likelihood of providing sound guide lines for appropriate future legislation for the gifted.

We are particularly appreciative of the leadership provided by the Superintendent of Public Instruction, George T. Wilkins, and First Assistant Superintendent, Guy E. Cornwell, in providing the structure, policies, and procedures for carrying out the intent of the law. We are especially grateful for the inspiration and encouragement extended to us by Ray Graham, State Director of Special Education. A large measure of credit for the success of this project is due to the professional guidance of the Project Coordinator of the Special Study Project for Gifted Children, Dr. David M. Jackson, and members of the State Advisory Committee on the Gifted.

The enlightened approval of the Champaign Board of Education, endorsing the staff's conducting research in the schools, reflects the high calibre of leadership of Board Members and Chief Administrator, Dr. E. H. Mellon, the Superintendent. It is evident that there is a recognition that quality school systems have a responsibility for improving their instructional programs by using the scientific approach in studying their problems.

The excellent cooperation of Florence Aye, Principal of Dr. Howard School, and Camille Marien, Principal of Westview School, and their staffs facilitate the carrying out of the research study. The understanding, interest, and support of the parents for the project was outstanding.

Special thanks are extended to William Rogge, Research Consultant, Special Study Project for Gifted Children, for his technical advice and assistance, especially in analyzing the data. Dr. Henry Kaiser of the University of Illinois, College of Education, also provided assistance in this regard.

Dr. Rupert N. Evans, Associate Dean of Research of the College of Education, University of Illinois, and member of the Champaign School Board, and Dr. Fred P. Barnes, Professor of Education, University of Illinois, carefully reviewed the draft of the research report and gave constructive criticisms and suggestions for a more lucid presentation of the findings of the study.

Without the diligent and persistent efforts of our able secretaries, Hazel Powers, Rose Marie Ely, and Elta Grace Foster, the results would have never reached printed form.

We are most indebted to our Assistant Superintendent of Schools, Earl D. Patton, who has over-all responsibility for research conducted in the school system. Although the demands of this administrator are heavy, he gave freely of his time and professional experience and skills. His encouragement and capacity for injecting a sense of humor when the researchers were confronted with trying problems, such as interpreting the complicated data and editing the final research report, kept the morale of the staff at a high level of enthusiasm.

Merle B. Karnes
Director of Special Services and
Research Project Director

FOREWORD

> "Making allowances for human imperfections, I do feel that in America the most valuable thing in life is possible, the development of the individual and his creative powers."
>
> -- Albert Einstein

In its statement of school philosophy the Champaign Board of Education has committed itself and its professional staff to acceptance and implementation of the belief that individual differences exist within the school population. These differences require that atypical pupils should be discovered, encouraged, and challenged. Thus, differentiated and individualized instruction become imperative.

One category of atypical pupils in our schools includes children who are intellectually gifted and academically talented. In recent years, this category of students has attracted particular concern for reasons of national and international import. Unfortunately, the translation of that concern into practical educational procedures has not been easy. There has been a comparative dearth of research-based evidence on which program modifications might be structured.

The Special Service personnel of the Champaign schools are characterized, happily, by an experimental, fact-seeking approach to educational problems. Thus, they have designed and carried on this study of factors associated with overachievement and underachievement in intellectually talented pupils. Their professional colleagues have observed their efforts with gratitude and satisfaction. We have seen them precipitate basic truths which relate to the real problem of providing for the gifted. This work has been carried out logically, systematically, and with a proper degree of wholesome skepticism. Our colleagues have exhibited an admirable degree of scholarly sophistication with respect to research techniques. The calibre of methodology demonstrated should do much to dispell the indefensible but widely-held position that public school personnel are incapable of such professionally-demanding work.

We would call attention also in this foreword to the high state of morale and efficient level of group work which has developed out of and accompanied the project.

Finally, the opportunities that the project has provided for in-service personal and professional growth, on the part of those directly participating and for the total staff which has cooperated, observed, and assisted with the several tasks, are of almost inestimable value.

It would seem that this kind of activity cannot be recommended too highly to school systems everywhere.

Earl D. Patton
Assistant Superintendent of Schools

TABLE OF CONTENTS

I. Introduction 1
  Problem.......... 1
  Review of Relevant Prior Research 1
  Implications of Prior Research for This Study 4
  Hypotheses 4
  Theoretical Orientation 5

II. Description of Experiment 14
  Overview of Procedure 14
  Selection of Subjects 14
  Characteristics of Subjects 14
  Discussion of Measurement Instruments 21
  Collection of Data 22
  Method of Analysis of Data 23

III. Statistical Findings 24
  Data 24
  Relationship of Data to Hypotheses 26

IV. Discussion of Findings 29
  Parents Attitudes Toward OA and UA Subjects 29
  Perceived Parent Attitudes of OA and UA Subjects 30
  Self-Concept of OA and UA Subjects 31
  Perceived Peer Relationships of OA and UA Subjects 31
  Social Maturity of OA and UA Subjects 31
  Creativity of OA and UA Subjects 32
  Representativeness of Findings 34

V. Interpretation of Case Studies 36
  Summary of Case Study Findings 36
  Representative Case Studies 38

VI. Summary and Implications.......... 46
  Problem 46
  Organization of Study 46
  Measuring Devices 46
  Results 46
  Implications of Findings for Educational Programs 47
  Need for Further Research 49

References 51

Appendix

Chapter I

INTRODUCTION

Problem

As our society has become more complex, the demands for larger numbers of adequately trained personnel with a high order of intelligence to meet the manpower shortage have become critical. It is urgent that the gifted be induced to achieve at a level commensurate with their intellectual potentials. Our rapidly expanding economy and our national security are dependent in large measure on the full utilization of the potentials of this segment of our population with high learning ability. In addition to society's needs for nurturing the intellectually gifted, our democracy stresses the right of every individual to have opportunities for self-realization compatible with his capacities.

In recent years schools have been encouraged to provide improved educational opportunities for the gifted. How the schools stimulate these pupils to develop their talents effectively and efficiently still remains largely an unsolved problem. If the factors associated with achievement were more clearly identified and their interrelationship understood to a greater extent, schools would be in a better position to provide educational programs and services to meet the individual and societal needs of the gifted.

Since patterns of behavior tend to be set at a relatively early chronological age, this gives impetus to studying factors associated with the achievement of young intellectually gifted children. If one should plot the intelligence and achievement test data of a number of gifted children and compare the achievement level of each child with what might be expected of him, based on his intelligence test measure, one would find some gifted children who are achieving at a level below that which would be predicted. Since intelligence appears to be only one factor that accounts for differences in achievement, this study concerns itself with investigating the relationship between achievement and certain other selected factors.

Subjects chosen for the study are gifted pupils at the elementary school level who were identified as markedly underachieving and markedly overachieving. It was felt that a better understanding of the relationship between the selected factors to be studied and achievement could best be gained by studying differences between subjects representing the two extremes in achievement, the markedly underachieving and markedly overachieving.

In general, the hypotheses state that the overachievers will be better adjusted, have better interpersonal relationships, and be more creative than the underachievers.

Review of Relevant Prior Research

Terman (1925) (1947) and Hollingworth's (1926) classical research studies have made major contributions to our understanding of the differentiating characteristics of gifted children. They found that gifted children are superior in all respects--intellectually, academically, physically, emotionally, and socially. Their findings based on studies of children with intelligence quotients of 140 and above may, or may not, apply to intellectually gifted children who obtain IQ's of 120 on such individually administered intelligence tests as the Revised Stanford-Binet. Terman relied on teacher nominations and age-grade placement for determining who should be administered an individual intelligence test. Thus, the underachiever, as defined in this study, may not have been included in his study of gifted children.

Although the gifted pupil's potential for superior educational achievement has been well established, few investigations have been made of factors other than intelligence which might influence their actual educational attainment. This is especially true at the elementary level. One study investigating factors associated with superior and inferior school achievement was conducted by Lewis (1941). He identified elementary age subjects by group intelligence tests, conducted surveys and observations of personality traits and interests, and studied home backgrounds of the subjects. The superior achievers were found to have more desirable personality traits. They differed markedly from the inferior achievers in dependability, originality, self-reliance, and inquisitiveness. Superior achievers were also found to have more intellectual interests as well as home backgrounds more conducive to academic achievement. At the time Lewis' study was conducted, many of the present day instruments for evaluating personality factors were not available.

Kimball (1953) studied the personality characteristics of under- over- and normal achieving adolescent boys using the case study approach. Her findings indicated that underachieving boys had inadequate father relationships, were prone to be passive, had feelings of inferiority, manifested physical aggression toward objects, and generally had difficulty expressing their negative feelings.

In an investigation conducted by Gallagher (1957) the school achievement of 54 pupils with Revised Stanford-Binet IQ's of 150 or more was studied. He was concerned with investigating what the elementary school can do in regular classes to meet the needs of gifted children. An attempt was made to delineate the unresolved needs of gifted children. Underachieving as well as high achieving gifted children were included in the study. These children were enrolled in heterogeneous classes and a case study approach was used. The basic problems of each child were identified and a plan was formulated for adjusting the curriculum to meet the needs of the child. Gallagher found the major problems of these gifted children were a lack of interest and desire for further knowledge, an inability to see new relationships or to take new lines of thought on a topic, and minor emotional difficulties. Approximately two-thirds of the group were underachievers. Causes of underachievement manifested by lack of motivation and personality problems were found to have their genesis predominantly outside of school.

Kahl's (1953) investigation was concerned with discovering factors pertaining to the home which explain differences in achievement. His subjects (whose parents had comparable educational backgrounds) were boys with superior intelligence from middle class homes. He found that fathers who were content with their present status were less likely to have sons who were interested in going to college. The sons tended to aspire to have jobs similar to their fathers. Fathers who were striving to get ahead and were not satisfied with their present status were more likely to have boys who were more enthusiastic about securing a college education.

Kurtz and Swenson's (1951) study of overachievement and underachievement of children from grades four through twelve appears to be more closely related to this study than any other. Five types of achievers with 40 children in each type were studied. The two categories most closely related to the underachievers and overachievers of this study were the "Plus Achievers" and "Minus Achievers". Data were obtained on home conditions, peer relations, physical and mental well-being, academic inclination, and aspirations and prospects for the future. They found that the "Plus Achievers" had more favorable homes, achieved better peer relationships, were generally regarded as bright, were more confident, felt more adequate, and had a greater drive for advanced education and more definite vocational goals.

Drews and Teahan (1957) studied parental attitudes of dominance, possessiveness and ignoring of mothers of 20 under and high achieving high school girls. The mothers of high achieving subjects when compared with the mothers of underachieving subjects were found to be significantly higher on measures of dominance and significantly lower on measures of ignoring. These researchers interpreted the results as supporting the theory that parental intervention is necessary for the development of adequate ego controls in the child so that he will be able to meet the reality demands of the classroom. High achievers seemed to have strong identification with parents and to adopt their value system. These parents had higher aspirational levels for their children and encouraged and directed them toward activities conducive to high achievement.

In Portland, Oregon (1959) a study was made of 49 high achieving and 49 underachieving boys at the high school level. They were matched for socio-economic status, intelligence and grade placement. Generally the underachievers had negative attitudes toward school assignments and had lower vocational aspirations than the high achievers. No significant differences were found between the two groups in social and emotional adjustment, however, high achievers tended to be more stable. High achieving boys did indicate some problems in the area of boy-girl relationships. Parents of high achievers were less authoritarian than were parents of low achievers.

Walsh (1956) used a play therapy technique to obtain information on underachievers and overachievers. Her data revealed that low achievers were less well accepted by their families, more defensive, and negativistic.

Getzels and Jackson (1958), studying creativity as a dimension of giftedness, administered tests designed specifically to measure creativity and intelligence to 500 students in grades six to twelve. They identified the top 20 percent of the sample on IQ measures (137-170) and found they were not the top 20 percent on measures of creativity. Another group ranked in the top 20 percent on creativity but not on IQ (108-136). Both groups were equally superior to the general population on achievement tests. These researchers have contended that the traditional intelligence tests may not be measuring all of the intellectual processes.

Pierce (1959), in connection with the Quincy Youth Commission project, investigated motivational patterns of underachieving and overachieving high school students of superior ability. Pupils in grades 10 and 12 who scored in the upper 30 percent on group intelligence tests were classified as high or low achievers on the basis of the agreement between letter grades received and IQ's. The motivational patterns (measured by McClelland's Projective Test, Strodtbeck's V-Scale and deCharm's V-Scale), personal adjustment (measured by California Psychological Inventory, Who Are They Test, and Index of Status Characteristics), and parental identification (measured by interviews with subjects and parents, mothers' responses on PARI, and Semantic Differential Technique) of high achieving pupils were compared with those of low achieving pupils. Fathers proved to be more important influences in the lives of overachievers than of low achievers. The underachievers more often named persons outside of the family as having been the most influential persons in their lives. On the PARI, mothers of high achieving boys scored significantly lower in authoritarianism than did mothers of low achieving boys. Mothers of high achievers were significantly different from low achievers in that they placed more importance on imagination. They held higher educational aspirations for their children.

Implications of Prior Research for This Study

The research that has been conducted regarding achievement suggests that favorable parental attitudes, acceptance of peers, emotional stability, maturity, creativity, high parental expectations and acceptance, and generally more desirable personality traits characterized high achievers. On the other hand, inadequate parent relationships, lack of challenge in the school, feelings of personal inadequacy and lack of self-confidence, poor peer relationships, lack of sufficient motivation, and emotional instability have been suggested as being associated with underachievement.

A review of the research indicates that few studies investigating the factors associated with underachievement or factors associated with overachievement have been conducted with children of elementary school age. Subjects have usually been identified by group tests rather than individual tests and only a limited number of factors associated with achievement have been investigated. Methods of identification and differences in definition of the gifted render comparisons of findings difficult since comparable populations were not studied. Creativity as related to achievement has been explored by few researchers and no one has specifically studied creativity in under and overachieving gifted children. A number of studies on underachievers have used boys exclusively as subjects.

An evaluation of previous research suggests that there is a need for a study of under and overachieving gifted pupils at the elementary level identified by individual intelligence tests and making use of objective measuring instruments evaluating some of the factors which appear to be related to achievement.

Hypotheses

Some intellectually gifted pupils achieve markedly above and some markedly below the level expected on the basis of their IQ's. When intelligence test scores and socio-economic backgrounds are held constant, these differential academic outcomes appear to be related to comparable differences in personality variables influencing school performance. Stated in another way, when groups of overachieving gifted pupils are compared with comparable groups of underachieving gifted pupils, it is suggested that the groups will differ with respect to measures of parent attitudes, adequacy of self-concept, perceived parent attitudes, perceived peer relationships, social maturity, and creativity.

These hypotheses were tested in this study:

1. Parents of overachieving gifted pupils are less authoritarian-controlling, less hostile-rejecting, and more democratic than are parents of underachieving gifted pupils (parents of overachieving gifted pupils have higher scores on the PARI than do parents of underachieving gifted pupils).

2. Parents of overachieving gifted pupils report more favorable attitudes toward their children on eleven relevant adjustment areas than do parents of underachieving gifted pupils (parents of overachieving gifted pupils have higher scores on a structured interview sampling eleven relevant parent-child relationship areas than do parents of underachieving gifted pupils).

3. Overachieving gifted pupils perceive themselves as more accepted and intrinsically valued by their parents than do parents of underachieving gifted children (overachieving gifted pupils score higher on the Perceived Parent Attitudes Scale than do underachieving gifted pupils).

4. Overachieving gifted pupils are more realistic in their self-concepts than are underachieving gifted pupils (overachieving gifted pupils have more scores in the middle range whereas underachieving gifted pupils have more scores in the high and/or low ranges on the Rogers Test of Personal Adjustment).

5. Overachieving gifted pupils see themselves as more accepted by others than do underachieving gifted pupils (overachieving gifted pupils score higher than do underachieving gifted pupils on the Perceived Peer Relationships Scale).

6. Overachieving gifted pupils are more socially mature than are underachieving gifted pupils (overachieving gifted pupils score higher on the Vineland Social Maturity Scale than do underachieving gifted pupils).

7. Overachieving gifted pupils are more creative than are underachieving gifted pupils (overachieving gifted pupils score higher on a test of creativity than do underachieving gifted pupils).

Theoretical Orientation

The theoretical approach underlying this investigation has been that of bio-social interactionism. From this point of view, striving for life necessities involves the stimulation of biologically given potentials. The high degree of conceptual ability of man enables the modification of these potentials and the acquisition of socially approved types of activities. Conceptual ability provides the nucleus for an organization of the person's activities based on the differentiation of self and not-self. The perceptions of our self and the perceptions of the objects, people and events which make up the world about us are the experiential source for the differentiation and the integration of the total personality. The development of the self-concept, or ego, as the organizational center for all human behavior has been comprehensively presented by David P. Ausubel (1952).

Theoretical Orientation of This Study

More specifically, the kinds of relationships that are hypothesized as holding between environmental factors, personality variables and performance are derived from a conception of performance as the resultant of the existing personal organization of the individual. The construct of ego is used to denote that aspect of the person which acts to organize the self-activities, mediating between external and internal factors. Ego development (or the formation of a self-concept) requires conceptual ability and a set of experiences. In the normal course of ego development, the child is confronted with many demands and finds many sources of satisfactions for his needs. Home, school, and environmental factors contribute to ego formation. The unrestrained assertion of the self, characteristic of the young child, soon meets with strong social disapproval. This developmental trend gives way to the more tenable solution of submission to and identification with parents.

In return for this submission (conformity), the child gains parental acceptance and intrinsic valuation, and thus a derived feeling of personal adequacy. His feeling of self-esteem is reinforced by acceptance gained from siblings, friends and other significant persons such as teachers. His success in finding meaningful and satisfying relationships outside of the home favors his making a correspondingly satisfactory adjustment to school. School successes foster realistic self-confidence and reassure his needs for status and acceptance. The child is thus encouraged to take on other values and standards indicative of his willingness to conform, such as a sense of responsibility for making a realistic effort, the development of resources for independent planning, a capacity to persist in working toward distant goals and the ability to develop his creative potential. Although many of these activities occur within the school situation, the relationship between ego formation, parental acceptance, acceptance by other significant persons, and school achievement is one of mutual reciprocity with success in any one area conducive to success in other areas. From this consideration, high academic achievement might only be a manifestation of a well integrated personality organization.

When such a pattern of derived status is not possible (i.e., when the child is rejected and extrinsically valued by his parents, is socially unaccepted, or encounters academic failures), the child must look for some other method for self-actualization. Confronted with doubts as to his personal adequacy and faced with the necessity of finding satisfactions for his needs for acceptance and recognition, he may embark upon a course of seeking to prove his worth and adequacy. He may hold to very high aspirations, attempt to convince himself and others that he is highly regarded and accepted by others, and strive to give the impression of a high degree of self-confidence and assurance. In such cases high achievement may only be a frantic attempt to avoid failure.

In other instances the child may encounter obvious rejection, extrinsic valuation and failure. In order to maintain his status, he may devalue himself and come to think of himself as inadequate and worthless. In keeping with his self-devaluation, his performance is characterized by low manifest anxiety, inflexibility, and a defensive holding to goals which are much below his potential. He is poorly motivated, thinks of himself as unaccepted and unwanted by others, and displays a very low degree of self-confidence. His many failures reinforce his devalued self-concept and favor his continuing the pattern of underachieving. Thus, failures in any one area are conducive to failures in other areas. In this instance poor school achievement may be a manifestation of personality disorganization.

Relationship Between Personality Variables and School Achievement

The relationship between personality and school achievement is conceived of as one of mutual reinforcement. Adequate personality development as manifested by satisfactory performance is favorable to academic success, and school success is conducive to good personality development. A similar reciprocal relationship exists between inadequate personality functioning and school failure. Personality disorganization, as manifested by inadequate functioning, fosters academic failure, and academic failure, in turn, is conducive to inadequate personality development. These relationships between personality functioning and school achievement were outlined in an address given by Findley (1959).

Considering these reciprocal relationships in greater detail, adequate personality functioning is correspondingly manifested in commensurate degrees of perceived parental acceptance and perceived parental intrinsic valuation, perceived peer acceptance, academic success, social maturity, self-concept, and productive creativity. Inadequate personality functioning is proportionately indicated by perceived parental rejection and perceived parental extrinsic valuation, perceived peer rejection, academic failure, social immaturity, unrealistically high or low self-confidence, rigidity and inflexibility. Looking at the other side of the proposition, the academically successful pupil tends to be more accepted and intrinsically valued by his parents, more accepted by his peers, more socially mature, more realistic in his self-concept, and more flexible and creative in his approach to problem solving. The academically unsuccessful pupil, by contrast, tends to be less accepted and less intrinsically valued by his parents, less accepted by his peers, less socially mature, less realistic in his self-concept, and less flexible and less creative in his approach to problem solving.

Although the schools do not directly teach or train for personality development, significant aspects of personality formation occur within the school setting (i.e., assumption of responsibility for the consequences of one's actions, self-reliance in meeting demands and obligations, finding satisfactions for status, recognition, and acceptance outside of the family, and the acquisition of appropriate goal setting facility) (Symonds, 1951).

Influence of Other Variables on School Achievement

The influence of intelligence upon school success has been indicated by the finding of a general correlation of approximately +.55 between intelligence and achievement test scores (St. John, 1930). It was found that factors associated with socio-economic background are also significantly related to school achievement ($r = +.35$) (Edminston and McBain, 1945). The often observed fact that girls achieve higher than do boys in school was interpreted as reflecting corresponding differential cultural expectations by Ausubel et al (1954). Girls are afforded status and recognition in our culture for compliance and quiet conformity. Boys, on the other hand, are subjected to greater pressures to prove themselves. This necessity to demonstrate their worthiness in order for boys to gain acceptance and recognition engenders doubts as to their personal adequacy and competence and is reflected in feelings of uncertainty and anxiety, and thus a proportionately lower performance, at least initially. A disproportionately higher percentage of members of minority racial groups have been found to have low academic achievement (Pressey, 1923), and high academic achievement (Loevinger, 1940). These differential outcomes in academic achievement are probably associated with comparable differences in values held for school success (Davis, 1949).

Thus, personality, intelligence, socio-economic status, sex role, and racial group membership contribute to school achievement. The influence of these factors must be considered in any study of factors associated with academic achievement.

School Achievement of the Gifted as Compared to the Average Child

Although the relationships considered in the preceding discussion generally hold true, there are particular influences contributing to the academic achievement of the gifted child in contrast to that of the child of average intelligence. These factors are closely associated with the higher than average conceptual ability of the gifted child. It has been found that the academically gifted child manifests a commensurately high potential for outstanding achievement in all areas and activities (Terman, 1947), but if adequate personality development or functioning is taken to mean the realization of the maximum from one's potential, or the complete actualization of one's every capability, then the gifted child is frequently placed in a difficult position in attempting to develop his abilities to the fullest extent. The academically gifted child is able to learn more rapidly and with less effort (drill). He is able to extend and apply his learning easily and thus readily sees relationships, comprehends meanings and makes logical analyses of events and situations. Most apparent in the elementary school setting is his superior reading ability. These characteristics may be manifest in tendencies to question and challenge routines and rules, to detect logical errors in operational procedures, to become bored with repetitious drills, and to seek to explore the abstract ramifications of any and all given topics. When these tendencies are appropriately channeled in the classroom and at home, they form the basis for exemplary academic achievement and foster adequate personality development. In instances where the school program is not geared in such a way as to make allowances for the special needs of the gifted pupil, these same potentially positive factors may come to adversely influence academic achievement. The impatient, overly critical, doubting and disgruntled child is more likely to encounter rejection from his parents, teachers, and peers. This impairment in inter-personal relationships is incorporated into the pupil's personality organization and negatively influences his functional efficiency, predisposing him to a greater number of failures in all situations, including school work. The impact of these failures adds to his doubts as to his personal adequacy and he feels more anxious which, in turn, renders him more likely to fail. In this way, a circular and mutually reinforcing pattern of failures and impaired personality organization is established.

In some cases, the gifted pupil who encounters failures or rejection which cause him to doubt his adequacy may devalue himself and aspire to goals and performance which are consistent with his devalued concept of himself, thus underachieving in all situations including school work. It is conceivable that academic underachievement could also result from a gifted pupil simply not being sufficiently mobilized or interested in school work, in which instance there would not be significant personality disorganization, at least initially.

Although adequate personality functioning is generally manifested in correspondingly adequate academic achievement, school success is conditioned by a number of interrelated variables. Thus, the pupil whose personality development is eminently adequate (who is accepted and intrinsically valued by his parents is assured of his acceptance and recognition by his peers) may be able to perform at a correspondingly higher than expected level in all situations, including school work. A similar unexpectedly high level of performance could also ensue from the efforts of a pupil who seeks to compensate for impaired relationships. He sees achievement as a means of gaining acceptance and recognition from peers. For example, the pupil who fails in school or who feels rejected by his parents may put forth all effort in seeking to prove his adequacy or because he gains satisfaction from thus winning in competition with those (peers) whom he feels reject him. Such overachievement would be gained at the cost of great personal effort, and it is expected that the impaired personality organization underlying such compensatory performance would not permit the individual to persist in consistently achieving at such a high level. On the other hand, his superior intellectual ability renders such a compensatory adjustment more readily attainable for the gifted child and, in those instances where the degree of impairment is rather mild, the rewards from such outstanding academic achievement may be maintained since they outweigh failures experienced in other areas (parent-child relationships, peer rejection).

Still another significant source of impairment in the relationship between the personality development and school achievement of the gifted child is associated with the cultural expectations and evaluations of the differential attainments of boys as contrasted with girls. As was previously stated, boys in our culture are confronted with demands for greater achievement in order to prove their worth and adequacy, whereas girls are accorded status and recognition more on the basis of a kind of passive conformingness. Although school success is thus initially favored for the intellectually gifted girl, subsequent developmental demands entail making a choice between risking social rejection if she always achieves at a high academic level, or coping with the frustration ensuing from having to guardedly withhold and withdraw from many potentially personally satisfying endeavors.

Thus, the academic achievement of the gifted pupil is differentially contributed to by a variety of mutually reinforcing factors. The complexity of the interrelationships among these variables makes it impossible to generalize regarding the causes of academic success or failure.

Parent Attitudes Toward Children and School Achievement

A reciprocal relationship exists between parent attitudes toward children and school achievement. Favorable parent attitudes toward a child are conducive to academic success for the following reasons: (1) the child who is accepted and intrinsically valued by his parents develops a feeling of personal worth and value which adds to his confidence in coping with all situations, including school tasks; (2) the child who is accepted and intrinsically valued by his parents feels more assured of his status and of the rewards which additional success will bring him, and thus is willing to persist at school tasks; and (3) parents' attitudes of acceptance and intrinsic valuation engender a greater feeling of personal security on the part of the child and he is less anxious and therefore better able to concentrate effectively on the task at hand. On the other hand, school success is favorable to parent attitudes of acceptance and intrinsic valuation because (1) the pupil who is successful at school provides his parents with evidence that he is worthy of their esteem; (2) successes in school are rewarding to the pupil and encourage him to approach all situations realistically, and his more realistic goals result in a greater number of successes; and (3) academic successes gain the pupil greater social acceptance and recognition from other teachers and pupils and add to his skill in coping with all social situations, including the parent-child relationship.

A similar reinforcing set of relationships exists between parents' attitudes of rejection and extrinsic valuation and school failure. Parents' attitudes of rejection and extrinsic valuation foster academic failure for the following reasons: (1) the child who is rejected and extrinsically valued has reason to doubt his personal worth and adequacy and his lowered self-esteem predisposes him to fear that he will fail; (2) the child who is rejected and extrinsically valued has failed more frequently in the past and is less willing to persist in any task since he thinks it will only be another failure; and (3) the rejected and extrinsically valued child has greater need to turn to unrealistic methods for obtaining gratifications and his holding to unrealistic goals predisposes him to a greater likelihood of failing. From the other point of view, school failure fosters parental rejection and extrinsic valuation for the following reasons: (1) the pupil's school failures provide evidence for him to think of himself as inadequate and to doubt whether anyone, even his parents, thinks him worthwhile; (2) academic failures may reinforce parents' doubts as to the adequacy of a child and serve to "verify" their perception of him as one who is worthless and a failure; and (3) the cumulative effect of failures in school may result in the pupil becoming anxiously uncertain of himself so that he fails more frequently in all situations, including the parent-child relationship.

Self-Concept and School Achievement

The relationship between self-concept and school achievement is a reciprocally reinforcing one. An adequate self-concept contributes to school success in as much as: (1) the child who is confident in his abilities has a minimal fear of failure and thus is more willing to try initially; (2) the child whose self-concept is adequate is confident of his ability to set goals which are appropriate for his capability and he is hence more likely to succeed; and (3) the child with an adequate self-concept expects success in the long run and is therefore better able to persist in striving in the face of initial adversity.

Success in school, in turn, reciprocally generates an adequate self-concept for the reasons that: (1) school successes provide the pupil with actual experiences upon which to base a realistic self-concept; (2) the academically successful pupil obtains a more complete and certain knowledge of the limits of his abilities and thus is able to make more appropriate judge-mental evaluations of all phenomena, including his self-concept; and (3) academic success gains the pupil recognition from others and he feels more secure and worthy, thus enhancing his self-concept.

On the other hand, an inadequate self-concept (manifestation of an impaired self-concept) is reciprocally related to academic failure. An inadequate self-concept is conducive to academic failure for the following reasons: (1) the child with an inadequate self-concept tends to doubt his ability, is anxious, and therefore less able to concentrate on the task at hand with complete effectiveness; (2) the child with an inadequate self-confidence may seek to "prove" himself by striving for goals far beyond his ability level, thus predisposing himself to failure; and (3) the child with an inadequate self-confidence may fear additional failures and set goals much below his ability level with the result that his accomplishments fall far short of his real capacity.

Academic failure is reciprocally conducive to an inadequate self-concept because: (1) school failures provide objective reasons to the pupil for doubting his own capacity for achievement; (2) the pupil who experiences failures in school is less likely to persist in goal striving and is, on this account, predisposed to additional failures and further impairment of self-concept; (3) the pupil who is unsuccessful in school may find himself also unaccepted by others, giving him added cause to doubt his adequacy.

Peer Relationships and School Achievement

The quality of peer relationships is also considered to be related to academic achievement in a reciprocal fashion. A high degree of peer acceptance encourages academic success for the following reasons: (1) favorable peer acceptance enhances the child's feeling of personal adequacy and he feels more confident in being able to cope successfully with other situations including school tasks; (2) adequate peer acceptance encourages the child to hold to realistic goals and he is thus more likely to succeed in all situations; and (3) the child who is accepted by his peers has a greater assurance of his worth and capability and is more willing to persist at a task even in the face of initial failures.

School successes foster peer acceptance since: (1) successes in school are given favorable recognition by other persons; (2) school successes form a realistic basis for the pupil to think that he can be successful in other situations, including peer relationships; and (3) school successes give the pupil less reason to seek compensatory (and thus unrealistic) satisfactions for his needs for acceptance and recognition.

Looking at the other side of the relationship, peer rejection is also reciprocally related to academic failure since: (1) the pupil who is rejected by his peers has doubts as to his personal adequacy and may not become adequately mobilized to cope with a task, thus failing; (2) the pupil who is rejected by his peers has less reason to try to succeed since he feels that no one really cares about the outcome; and (3) peer rejection gives the pupil greater reason to seek unrealistic ways to gratify his needs, thus predisposing himself to failure.

Academic failure is conducive to peer rejection for the following reasons: (1) school failures give the pupil reason to doubt his worth and he anxiously fears that no one will accept him because he is a failure;

(2) failures in school discourage the pupil from trying in all situations, including peer relationships, since he thinks that he will only fail; and (3) academic failures may encourage the pupil to seek gratification for his needs for acceptance and recognition in anti-social ways, thus increasing his likelihood of being rejected by other people.

Relationship Between Social Maturity and School Achievement

Social maturity and educational achievement are reciprocally related. A high degree of social maturity is conducive to academic success for the following reasons: (1) the socially mature pupil is more confident of his acceptance by others and this assurance enables him to concentrate more effectively upon the task at hand; (2) the socially mature pupil feels more self-adequacy in all situations and this self-assuredness adds to his skill in all situations, including school; and (3) the socially mature pupil is more realistic in terms of his goals which increases the likelihood of his being successful.

School success, on the other hand, fosters social maturity since: (1) the academically successful pupil receives certain status and recognition from others so that he feels more rewards from contacts with other people; (2) academic successes provide a basis for realistic self-esteem and this enables the pupil to be more realistically confident in his relationships with other persons; and (3) school successes are rewarding to the pupil so that he feels more willing to cope with all situations including social relationships with the anticipation of eventual success.

From the negative point of view, a low degree of social maturity favors school failures because: (1) the socially immature child has failed more frequently in the past and is unwilling to involve himself in new situations, including school tasks, which he perceives as potentially more failures; (2) the socially immature child has experienced more rejection from others and his uncertainty renders him unable to mobilize adequately to cope with a task; and (3) the socially immature child is more likely to seek compensatory goals or rewards and this unrealistic approach predisposes him to failure.

Likewise, failures at school foster social immaturity since: (1) academic failures engender feelings of personal inadequacy and the pupil anxiously thinks that he will fail in all situations, including social relationships; (2) school failures encourage the pupil to seek compensatory successes by holding to goals or standards which are much below his real potential, even in his relationship with other people; and (3) the pupil who fails in school may develop an unrealistically low regard for his efforts and this impairment in his self-critical facility renders him unable to evaluate the appropriateness of his social relationships.

Creativity and School Achievement

The relationship between creativity and educational achievement is conceptualized as one of mutual reinforcement. A high degree of creativity favors academic success for the following reasons: (1) the creative pupil is able to think of a greater number of possible solutions for a problem and thus is more likely to succeed; (2) the creative child has a greater feeling of confidence in his ability and he is more willing to try a new task; and (3) the creative child is better able to evaluate the quality of his efforts and this adds to his skill in persisting at a task until he is successful.

Successes in school foster a high degree of creativity on the part of the pupil because: (1) school successes encourage the feeling of realistic self-confidence and the pupil feels more willing to try to cope with any new task; (2) successes in school, requiring a variety of approaches for solutions, provide the pupil with a realistic background of experiences in problem solving which adds to his skill and anticipation of eventual success; and (3) the pupil who is academically successful is more assured of his status and thus is better able to concentrate on the task at hand.

From the reverse viewpoint, a low degree of creativity favors school failures in as much as: (1) a low degree of creativity may preclude the child from finding solutions to problems so that the child fails more frequently; (2) a low degree of creativity may result in a greater number of failures and consequent lowering of self-esteem with corresponding underachievement in all situations; and (3) a low degree of creativity and the subsequent failures may cause the pupil to doubt his acceptance by others so that he is anxiously uncertain and unable to concentrate effectively on the task at hand and thus fails.

Likewise, academic failure encourages a low degree of creativity for the following reasons: (1) the pupil who has failed in school becomes more concerned with avoiding failure than coping with the demands of the task and thus fails; (2) school failures impair the pupil's feeling of confidence and he cannot mobilize his abilities effectively and thus falls short of the requirements of a task; and (3) school failures result in the pupil being rejected and he is not motivated to persist in the solution of a new problem and thus fails.

Although factors originating primarily outside of the school setting as well as factors originating primarily within the school setting influence academic success or failure, appropriate educational programs cannot be developed for meeting the needs of the gifted child until more is known concerning the interrelationships of variables contributing to school performance. It is of these interrelated variables that this study and extensions of this study should be concerned.

Chapter II

DESCRIPTION OF EXPERIMENT

Overview of Procedure

Parents and school personnel cooperated in a study exploring ways in which the school might improve educational offerings to able pupils. Screening to identify intellectually gifted pupils was initiated in the summer. Achievement tests were administered the following fall. After identifying under and overachievers, other instruments were administered. The school social worker, psychologist, and curriculum consultant for the gifted each collected data relevant to their particular discipline necessary for making an individual case study of each subject. Following the collection of data, these persons shared their findings at a case conference conducted by the director of special services. A composite case study was written.

Selection of Subjects

Subjects were drawn from a pupil population of 900 enrolled in two large elementary schools situated in white middle class socio-economic neighborhoods. Preliminary screening made on the basis of scores on the California Test of Mental Maturity and the California Achievement Tests, teacher ratings (check list developed in all school workshop the previous year), and the Binet vocabulary scale identified 465 pupils in grades 2, 3, 4, and 5 who gave indications of being of better than average intellectual ability. These 465 pupils were administered individually the 1937 Revised Stanford-Binet Intelligence Scale, Form L. Approximately 54 pupils in each grade level were found to have intelligence quotients of 120 or higher making a total of 223 gifted subjects. The 223 potential subjects were administered forms of the California Achievement Test which allowed for the previously ascertained level of expected achievement. Individual grade placement scores in the areas of arithmetic and reading were compared to Horn Formula corrected values for expected achievement in these areas to obtain an achievement discrepancy score for each pupil. The average achievement discrepancy scores were plotted for each grade level and pupils whose achievement discrepancy was -1 sd or lower were classified as underachievers (UA) (a total of 41 pupils) whereas those whose achievement discrepancy was +1 sd or higher were classified as overachievers (OA) (a total of 41 pupils).

Characteristics of Subjects

As noted in Table I, the two groups of subjects did not differ with respect to boy-girl ratio or chronological age. As might be expected, the greatest difference between the two groups was on the differentiating variable of academic achievement ($p < .001$). An unexpected finding was that the two groups differed significantly on measures of MA and IQ. The underachieving group had a significantly higher mean IQ ($p < .05$). Since MA is reflected in IQ, but the chronological age of the two groups was not significantly different, it seems that whatever variable or variables account for the differences between the groups with respect to measures of intellectual ability are related to the mental age rather than the chronological age. The difference between the two groups of subjects on measured intellectual ability could have been controlled for by a procedure of match-pairing subjects on the basis of IQ scores. Such a procedure, however, would not have been consistent with the primary concern of this study since it would have eliminated the criterion for ascertaining under or overachievement, i.e., the degree of discrepancy between MA and achievement grade level, and would have resulted in many of the subjects who were classified as under or overachievers being rejected from the two groups. The factors contributing to the under or overachievement of such "rejected" subjects would remain unexplored.

There are several explanations which might be offered to account for this difference in IQ's between the two groups. If, for example, the existing curriculum is such that pupils of higher intellectual ability are not challenged to achieve at the level expected on the basis of their MA, then it would be expected that underachieving pupils, as a group, when compared to high achieving pupils would have higher IQ scores. The Horn Formula provides some correction for this possibility by establishing an expected achievement level which is less than the actual mental age but, even so, such a possibility does not seem likely since pupils of all degrees of superior intellectual ability were found in both the under and overachieving groups.

Another possible source of error in classifying subjects as under or overachievers could have arisen from the degree of correlation between MA and achievement test measures. If the correlation between MA and achievement test scores is higher than that allowed for in the Horn Formula (+ .67 for reading, + .50 for arithmetic), then the subjects classified as overachievers would in reality be underachieving. But if such a line of thought is followed then all of the subjects could be considered as underachieving in varying degrees. From this point of view, there could be no basis for identifying under and overachievers as groups.

On the other hand, if the correlation between MA and achievement test scores for intellectually superior pupils is lower than that assumed by the Horn Formula, then some of the subjects classified as underachievers by the procedure used in this study would in reality be overachievers. Measures obtained from these spurious "underachievers" would have the effect of lessening the possibility of obtaining differences between the two groups of subjects investigated in this study. It should be stressed, however, that this is speculative.

There have been no reported findings to substantiate either of these two proposed alternative interpretations with respect to the correlation between the IQ's and achievement test scores of intellectually gifted pupils.

Further, the data as analyzed do not lend support to any of these possible explanations, particularly in view of the fact that pupils with comparable IQ's were found in both the under and overachieving groups. The finding of a higher intellectual potential for subjects in the underachieving group would seem to provide preliminary support for the point previously presented, i.e., that school achievement is conditioned by many factors.

Table I

CHRONOLOGICAL AGES, INTELLIGENCE, AND ACHIEVEMENT OF UNDERACHIEVERS AND OVERACHIEVERS

	Over-achievers	Under-achievers	Values of Statistical Significance	
N	41	41		
N of Boys	19	28	p = .08	$\chi^2 = 3.19$
N of Girls	22	13		
Mean CA	8.69	8.86	F = 1.07	t = .65
Mean MA	11.3	12.2	F = 1.73*	t = 1.86*
Mean IQ	130.3	138.7	F = 4.08*	t = 3.32*
Mean Achievement Grade Discrepancy	+.96	-1.11	F = 1.10	t = 17.25**

* significant at .05 level
** significant at .01 level

Table II gives the distribution of underachieving and overachieving subjects by grade and sex.

Table II

DISTRIBUTION OF SUBJECTS BY GRADE AND SEX

	OA		UA	
Grade	Boys	Girls	Boys	Girls
2	2	8	9	1
3	5	5	7	4
4	6	4	7	3
5	6	5	5	5
Total	19	22	28	13

Although more boys than girls were in the underachieving group (28 and 13) whereas there were more girls than boys in the overachieving group (22 and 19), the sex ratio between the groups was not statistically significant (Chi Square = 3.19, p = .08). It is interesting to note that 8 girls as compared to 2 boys were in the overachieving group at the second grade, but at the fifth grade level the number of overachieving boys exceeded the number of overachieving girls by one (6 boys, 5 girls). Similarly, as was true of overachievers, it was noted that the distribution of underachieving boys and girls at the fifth grade level was equal (5 girls, 5 boys), although the proportion of boy underachievers was considerably higher at the second grade level (1 girl, 9 boys). This may reflect the impact of differential cultural pressures and standards associated with sex roles in our society.

A greater number of boys (28) as compared to girls (13) were underachievers and this difference within the underachieving group was statistically significant (Chi Square = 5.5, $p < .05$). Of the total underachievers, 68 percent were boys whereas 32 percent were girls. Similar findings of a greater number of underachieving boys have been obtained many times, most recently by Jacobs (1957) and Gates (1961). This implies a certain commonality among underachieving subjects in this study and those in other research investigations.

Birth Order of Subjects

It has been suggested that birth order may be associated with gifted pupils. Drews (1957), for example, found that among her 150 gifted subjects over half were the first-born. An analysis was made of the birth order of underachievers and overachievers in this study to see if there were statistically significant differences. Table III presents the data of OA and UA in regard to birth order.

Table III

COMPARISON OF BIRTH ORDER OF UNDERACHIEVERS AND OVERACHIEVERS

Birth Order	Overachievers		Underachievers		Chi Square
	f	%	f	%	
Only Child	7	50	7	50	0.0
First of Two	7	58	5	42	.34
Second of Two	7	58	5	42	.34
First of Three	3	43	4	57	.14
Second of Three	9	53	8	47	.06
Third of Three	2	40	3	60	.10

% = total number of subjects in cell ÷ total number of subjects at each level

None of the above comparisons are significant ($p > .50$ in all cases).

There were no statistically significant differences found in the birth order of underachievers and overachievers in this study.

Characteristics of Parents
(Chronological Age, Educational Level, Occupation of Fathers)

An analysis was made of the chronological ages of mothers of overachievers and underachievers and the chronological ages of fathers of overachievers and underachievers. These data are presented in Tables IV and V.

Table IV

MEAN CHRONOLOGICAL AGES OF MOTHERS OF OVERACHIEVERS AND UNDERACHIEVERS

Child's Grade Level	Overachievers		Underachievers	
	$\bar{X}$	N	$\bar{X}$	N
2	37.0	10	34.2	10
3	37.6	10	36.4	11
4	34.9	10	39.1	10
5	38.9	11	41.0	9
Total Mean	37.1	41	37.5	39
Total Variance	29.6		35.7	

$z = .3$
$p = .38$

Table V

MEAN CHRONOLOGICAL AGES OF FATHERS OF OVERACHIEVERS AND UNDERACHIEVERS

Child's Grade Level	Overachievers		Underachievers	
	$\bar{X}$	N	$\bar{X}$	N
2	40.1	10	40.1	9
3	39.7	10	38.9	11
4	37.3	10	43.5	9
5	41.7	11	40.7	9
Total Mean	39.7	41	39.8	38
Total Variance	34.9		36.6	

$z = .07$
$p = .52$

No statistically significant differences were found between the chronological ages of mothers of overachieving pupils and mothers of underachieving pupils or fathers of overachieving pupils and fathers of underachieving pupils.

A comparison was made of the educational level of fathers of the OA and UA and mothers of the OA and UA. Tables VI and VII report this information.

Table VI

MEAN EDUCATIONAL LEVEL OF MOTHERS OF OVERACHIEVERS AND UNDERACHIEVERS

Child's Grade Level	Overachievers		Underachievers	
	$\bar{X}$	N	$\bar{X}$	N
2	15.3	10	12.9	10
3	14.0	10	14.3	11
4	13.9	10	13.9	10
5	13.0	11	13.8	9
Total Mean	14.0	41	13.7	40
Total Variance	4.0		4.08	

$z = .55$
$p = .30$

Table VII

MEAN EDUCATIONAL LEVEL OF FATHERS OF OVERACHIEVERS AND UNDERACHIEVERS

Child's Grade Level	Overachievers		Underachievers	
	$\bar{X}$	N	$\bar{X}$	N
2	16.0	10	14.8	9
3	17.0	10	15.9	11
4	14.6	10	14.9	10
5	15.4	11	14.4	9
Total Mean	15.8	41	15.1	39
Total Variance	10.0		6.4	

$z = .35$
$p = .36$

Data regarding educational level of fathers of OA as compared with fathers of UA and of mothers of OA as compared to mothers of UA revealed no statistically significant differences. The mean educational level of the fathers in both groups was approximately three years above high school. The mean educational level for mothers in both groups was two years beyond high school.

A comparison of the occupational status of the fathers of overachievers and underachievers was made. These data are presented in Table VIII.

Table VIII

OCCUPATIONS OF FATHERS OF OVERACHIEVERS AND UNDERACHIEVERS

Occupation Group #	Fathers of Underachievers (N - 41)		Fathers of Overachievers (N - 41)	
	f	%	f	%
1	12	14.6	19	23.1
2	13	15.8	7	8.5
3	10	12.1	10	12.1
4	4	4.9	4	4.9
5	2	2.4	1	1.2

A Chi Square analysis indicated no significant difference between over and underachievers with regard to parental occupation ($\chi^2 = 3.4$, $p = .40$)

# Occupations were classified as follows:

1. Professors, teachers, and academic research workers (academically oriented work)
2. Businessmen-owners and/or managers of large stores and concerns, doctors, dentists, lawyers, pharmacists, large general contractors (requires education, ability and achievement)
3. Skilled workers, construction foremen, or small contractors, i.e., skilled workers in business for themselves such as painting contractors, electricians, cabinet makers (requires some education and training such as apprenticeship)
4. Clerks, salesmen, police, barber (meet and work with people at service level)
5. Semi-skilled workers and unskilled workers (truck drivers, shoe repairmen, service station attendants, etc.) (work with things, products, requires little or no skill)

Summary of Characteristics of Parents

The two groups of subjects in this study did not differ significantly in respect to boy-girl ratio, chronological ages, birth order, ages of parents, educational levels of parents, and fathers' occupations. The underachieving group had a significantly higher mean IQ but the greatest difference was in the achievement scores of the two groups.

Discussion of Measurement Instruments

Two instruments were administered to mothers and fathers of overachievers and to mothers and fathers of underachievers to obtain information on parent attitudes. The first was the Parental Attitudes Research Instrument (PARI) (Shaefer and Bell, 1955). They reported a median test-retest reliability coefficient of .67. The 110 items, accordina to an analysis made by Zuckerman, Barrett, Monashkin, and Norton (1958), measure three vectors of parent attitudes: authoritarian-control, hostile-rejecting, and democratic.

A structured interview developed for this study consisted of 23 open-end questions designed to elicit parent attitudes toward their children in the areas of: achievement, meaning of school to parent, peer group relationships, sibling relationships, preschool years, development since starting school, and health history. When carefully analyzed, the material obtained from these 23 open-end questions seemed to fall into 11 areas of parent-child relationships. Accordingly, social workers judged each of the questions on a Likert-type rating scale. Higher scores were indicative of more favorable attitudes. The median inter-judge reliability coefficients ranged from .42 to .95.

The Revised Stanford-Binet Individual Intelligence Test, Form L, was used to assess the intelligence of the subjects. An appropriate level of the California Achievement Tests was used to determine the subject's level of achievement in reading and arithmetic. To determine the child's perception of his parents' attitudes, the Perceived Parent Attitudes Scale (reliability .88) (Ausubel, 1954) was administered. Social maturity was measured by the Vineland Social Maturity Scale (reliability .84), and the child's personal adjustment was measured by the Rogers Scale of Personal Adjustment (reliability .71). To evaluate the subject's perceptions of acceptance-rejection by other people, 50 items sampling this area were carefully selected from the California Test of Personality. After appropriate modifications and changes to guard against response set, these 50 items were arranged serially in a Perceived Peer Relationship Scale. In a trial administration of the Perceived Peer Relationship Scale, pupils of comparable intelligence and chronological ages were given the tests to determine comprehensibility prior to their use with the subjects in this study.

Two tests of creativity, Unusual Uses and Consequences, which are adaptations from tests devised by Guilford (1950) were used to assess the creativity of subjects. The four subtests selected for use in this study were Obvious Uses, Fluency, Flexibility, and Remote Uses. A pilot administration of these tests was conducted to determine appropriateness for this age group and to develop scoring criteria. It was found that the tests of creativity might not be sufficiently reliable if used at the second and third grade levels since ability to respond in writing is difficult for these young children. The scoring reliabilities of the creativity tests used in this study were high enough to justify use in this study. Three judges independently scored the tests and the correlation coefficients were all in the .90's. Split-half reliabilities of the test scores corrected by the Spearman-Brown formula ranged from .71 to .80 for the various scores. These test score reliabilities appear to indicate the tests were consistent in the measurement of the general abilities associated with them.

All of the above instruments were administered to each subject with the exception of the tests of creativity. Standardized instructions as described in available test manuals were followed to insure uniformity in administering and scoring the instruments (Rogers Test of Personal Adjustment, PARI, Vineland Social Maturity Scale). Measuring instruments were read aloud when necessary to the subjects in order to facilitate comprehension by younger subjects (Rogers Test of Personal Adjustment, Perceived Peer Relationships, Perceived Parent Attitudes).

Since items on the Perceived Parent Attitudes Scale and the Perceived Peer Relationships Scale had been arranged so as to guard against response set errors, the value given to subjects' responses to the negative items was reversed. All responses on these two scales were then weighted so that a high score could be interpreted as indicating high perceived parental acceptance and intrinsic valuation or, for the other scale, high perceived peer acceptance. (The Parent Interview, Perceived Parent Attitudes, and the creativity tests are found in the appendix.)

The scores from these measuring instruments are summarized in Table IX. For the PARI, a high score is indicative of a more unfavorable attitude for the Authoritarian-controlling and the Hostility-rejection scales whereas both unusually high and low scores are suggestive of an unfavorable self-concept on the Rogers Test of Personal Adjustment. For all other measuring scales, a high score is interpreted as indicating a high degree of the factor measured.

Collection of Data

Data Collected by Social Workers

Parents of underachievers and overachievers in the study were asked by means of a letter from the school principal to participate in the research project in which their children were then engaged. Parents were not informed of the status of their childrens' achievement. They were told that their children were selected at random from among a group of children with high intellectual ability.

The Parental Attitude Research Instrument (PARI) was administered to four groups of approximately 40 mothers and fathers of overachieving and underachieving subjects. Following the administration of the PARI, appointments were made to interview each parent of the subjects in the study individually.

Fathers and mothers were interviewed separately using the 23 open-ended questions to obtain information for the Parent Attitude Scale. All interviews were tape recorded and transcribed.

Data Gathered by Psychologists

The psychologist administered the 1937 Revised Stanford-Binet and Vineland Social Maturity Scale in an individual setting. The Rogers Test of Personal

Adjustment, Perceived Peer Relationships, Perceived Parent Attitudes, California Achievement Tests, and creativity tests were administered to subjects in a group setting. In addition, subjects were seen individually for a complete psychological evaluation to obtain information for the individual case studies.

Data Gathered by Consultant for Gifted

The consultant for the gifted conducted a structured interview with the teacher of each subject. The interview was designed to obtain information on the teacher's impressions or observations regarding the child's academic progress in the areas of reading and arithmetic, manifestations of creativity, his work-study habits and attitudes about school, his peer relationships, his health, his interests, and the concern of the parents for his academic achievement. This information was presented at a meeting of the research team and became a part of a complete case study. (See Appendix for an outline of the structured teacher interview.)

Method of Analysis of Data

The analysis of the data obtained to determine the factors associated with underachievement and overachievement of gifted children is presented in this report in two ways: (1) statistical comparison of underachievers and overachievers on all objective ratings; and (2) by means of a case study approach.

The use of parametric procedures seemed warranted for the detailed analysis of the differences between the scores obtained on most instruments. The significance of the differences between the responses of subjects in the overachieving group and the responses of those subjects in the underachieving group on all measures was computed by the *t* test after first checking for homogeniety of variance with the *F* test. When there were doubts about the scoring intervals being equal, nonparametric techniques were used.

Chapter III

STATISTICAL FINDINGS

Data

Significances of differences between the scores of subjects in the OA and the UA groups were ascertained using the t test, as indicated in Table IX.

Table IX

ANALYSIS OF VARIABLES INFLUENCING SCHOOL ACHIEVEMENT

Measuring Instrument	Overachievers			Underachievers				
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	F	t
PARI								
Auth.-Control								
Both parents	329.4	49.13	41	329.5	54.14	37	1.19	.01
Mothers	160.3	29.16	41	160.3	26.72	40	1.19	.01
Fathers	169.1	30.98	41	171.7	38.65	38	1.56	.52
Hos.-Rej.								
Both parents	125.6	17.87	41	130.5	16.11	37	1.21	1.29
Mothers	63.2	13.35	41	65.1	11.12	40	1.39	.65
Fathers	62.4	9.12	41	66.4	10.29	38	1.23	1.71*
Democratic								
Both parents	100.4	7.94	41	102.2	7.52	37	1.10	1.04
Mothers	51.0	4.80	41	51.4	4.30	40	1.24	.53
Fathers	49.4	4.84	41	50.7	4.73	38	1.04	.39
Per. Par. Att.	141.58	15.4	41	136.41	16.7	41	1.18	1.52
Rog. Test Per. Adj.	34.98	8.69	41	36.17	10.1	40	1.4	.57
Per. Peer Relat.	122.2	9.5	41	115.0	11.9	41	1.58	3.01*
Vin. Soc. Quo.	113.8	12.0	41	113.9	11.6	41	1.04	.04
Creativity								
Obv.	26.10	8.3	21	20.45	6.91	20	1.45	2.35*
Flu.	24.86	11.73	21	20.45	9.31	20	1.61	1.33
Flex.	17.81	6.48	21	14.45	5.49	20	1.39	1.79*
Remote	5.67	3.00	21	4.20	3.88	20	1.66	1.36

* = significant at the 5% level
** = significant at the 1% level

The ratings of parents' responses on the Attitude of Parents Scale (APS) regarding eleven relevant school adjustments were analyzed by the method described as the Median Test. (Siegel, 1956). The test was made of whether parents of subjects in the OA group expressed more favorable attitudes toward their children when compared to parents of subjects in the UA group. The analysis provides a statistic ("A") which can be interpreted from a table of Chi Square values. The results of this analysis are summarized in Table X.

Table X

ANALYSIS OF ATTITUDES OF PARENTS SCALE

Areas Investigated	Fathers of OA vs UA	Mothers of OA vs UA	Fathers of OA vs UA Boys	Mothers of OA vs UA Boys	Fathers of OA vs UA Girls	Mothers of OA vs UA Girls
1. Anticipating how child would get along in school	A=1.12 +	A =3.10 +	A = .01 +	A = .52 +	A =1.4 +	A = .72 +
2. How child felt about starting to school	A =2.45 +	A =1.70 +	A = .38 +	A = .04 +	A = .33 +	A = .38 +
3. Future goals of child	A = .06 +	A = .58 +	A = .02 +	A = .13 +	A =3.65 +	A = 0 0
4. Parents school experiences	A = .06 +	A =1.58 +	A = 0 0	A =1.10 +	A = .01 +	A =2.21 +
5. Peer group relationship	A = .02 +	A = .73 -	A =1.69 +	A =5.14* -	A =1.4 +	A = .07 +
6. Sibling relationships	A =1.84 +	A = .48 +	A =1.14 +	A = .14 +	A = .01 +	A = .29 +
7. Preschool problems	A =2.44 +	A = .92 +	A = .67 +	A =1.03 -	A = .01 +	A =1.45 +
8. School adjustment	A =9.96** +	A =17.26** +	A =4.0* +	A =10.4** +	A =3.36 +	A =5.36* +
9. Parents presently concerned about children	A = .99 +	A = .28 +	A = .32 +	A =1.1 -	A =4.29* +	A =3.0 +
10. Parental acceptance of children	A =5.92* +	A =6.99** +	A =2.7 +	A = .33 +	A =1.79 +	A =2.5 +
11. Health histories	A = .01 +	A = .03 +	A = .75 -	A =1.51 -	A = .02 +	A = .45 +

OA = Overachieving subjects
UA = Underachieving subjects
* = significant at .05 level
** = significant at .01 level
+ = attitudes of the OA group were more favorable on this variable
- = attitudes of the UA group were more favorable on this variable

The symbol A is a statistic that in this instance has essentially the same distribution as χ^2 corrected for continuity and is interpreted in a comparable manner (Siegel, 1956).

Relationship of Data to Hypotheses

The results of statistical tests of data relating to each of the hypotheses are presented below. Following the current practice, just those differences in scores which would occur by chance only once in twenty times ($p < .05$) or only once in one-hundred times ($p < .01$) were accepted as being statistically significant, i.e., not likely attributable to chance factors. A more detailed discussion of the results is presented in Chapter IV.

Hypothesis I: PARI

It was hypothesized that parents of OA gifted pupils as compared to parents of UA gifted pupils would be less authoritarian-controlling, less hostile-rejecting, and more democratic toward their children. Parents of OA gifted pupils were less authoritarian-controlling ($p = .50$), and less hostile-rejecting ($p = .10$) than were parents of UA gifted pupils, but the differences were not statistically significant. Parents of OA gifted pupils were, however, less democratic toward their children than were parents of UA gifted pupils, but this difference also was not statistically significant ($p = .17$)

Hypothesis II: Attitudes of Parents

Individual interviews were made sampling parents' attitudes toward the subjects with regard to eleven relevant areas of adjustment. Although the attitudes of parents of OA pupils tended to be more favorable than those of parents of UA pupils, consistent statistically significant differences were found with respect to only one of the eleven areas investigated, that of satisfaction with the pupil's present school adjustment. In addition, parents of OA pupils were significantly more accepting toward their children than were parents of UA pupils as a group ($p < .05$ for fathers, $p < .01$ for mothers). Fathers of OA girls were statistically significantly less anxiously concerned about their children than were fathers of UA girls ($p < .05$). Mothers of UA boys were statistically significantly more satisfied with the peer relationships of their children than were mothers of OA boys ($p < .05$). Attitudes in areas sampled by the interview were not found to be related consistently.

Hypotheses I and II, i.e., that there are significant differences in parents' attitudes toward OA and UA academically gifted pupils, are not supported by the data obtained. The influence of parental attitudes on school achievement of OA and UA academically gifted pupils is not indicated clearly by our data.

Hypothesis III: Perceived Parent Attitudes

It was hypothesized that OA gifted pupils as compared to UA gifted pupils would perceive themselves as more accepted and intrinsically valued by their parents. Pupils in the OA group did perceive themselves as more accepted and intrinsically valued than did pupils in the UA group, but the differences were not statistically significant ($p = .13$).

The data obtained do not support the hypothesized expectation that perceived parent attitudes contribute significantly to the academic success of academically gifted pupils.

Hypothesis IV: Self-Concept

It was hypothesized that subjects in the OA group would manifest a more adequate self-concept than subjects in the UA group. Although the scores on the Rogers Test of Personal Adjustment were in the middle ranges, as expected, for subjects in the OA group, the differences in the scores for subjects in the two groups were not statistically significant. A Chi Square analysis of the number of subjects from the OA and UA groups who had scores higher or lower than average (and thus an unrealistic self-concept) was carried out. The subjects from the UA group, as predicted, tended to have scores predominantly in the extreme low and high categories whereas subjects in the UA group had scores predominantly in the average category. Although this trend was in the predicted direction, the differences were not statistically significant (Chi Square = .616, $p < .30$).

Hypothesis V: Perceived Peer Acceptance

It was hypothesized that subjects in the OA group would have a higher degree of perceived peer acceptance than subjects in the UA group. This expectation was confirmed, and the difference between the perceived peer acceptance of subjects in the OA and UA group was highly statistically significant ($p < .001$).

The highly significant difference between subjects in the OA and UA group on this variable supports the hypothesis that a high degree of perceived peer acceptance is accompanied by a high level of academic success of gifted pupils.

Hypothesis VI: Social Maturity

It was hypothesized that subjects in the OA group would manifest a higher degree of social maturity than subjects in the UA group. This expectation was not substantiated. Moveover, the two groups of subjects manifested almost identical degrees of social maturity ($p > -.49$). The data obtained do not support the hypothesis that a high degree of social maturity contributes significantly to the academic success of gifted pupils.

Hypothesis VII: Creativity

As predicted, subjects in the OA group, when compared with those in the UA group, had higher scores on all four scales measuring creativity (Obvious Uses, Fluency, Flexibility, and Remote Uses). The differences between the two groups were statistically significant in the case of Obvious Uses ($p < .02$) and Flexibility ($p < .05$). The data confirm the hypothesis that a high degree of creative ability significantly is associated with high scholastic achievement of intellectually gifted pupils.

Summary

With regard to the influence of parents' attitudes upon school achievement, the data did not indicate a clearly discernible pattern of relationships. Only 10 out of 75 comparisons of differences in parents' attitudes were statistically significant. Although in most instances the results were in the expected direction (parents of overachieving pupils holding more favorable attitudes toward their children), in some instances the parents of underachieving pupils held the more favorable attitudes toward their children, in contradiction to the expected finding.

With respect to the influence of personality variables upon school achievement, the data appeared to indicate a more consistent pattern with favorable personality development associated with high academic achievement. A higher degree of social maturity, however, was manifested by subjects in the underachieving group.

Thus the differences between academically gifted OA subjects and academically gifted UA subjects were generally in the hypothesized direction, but the differences were statistically significant only in the case of measures of perceived peer relationships ($p < .001$) and creative ability ($p < .05$). A detailed discussion of the findings is presented in Chapter IV.

Chapter IV

DISCUSSION OF FINDINGS

The statistical interpretation of the data has followed the current practices of determining the probable significance of differences between measures with reference to arbitrary but previously agreed upon limits. In this section, the findings of this study, investigating the influence of parent attitudes and certain personality variables upon the academic achievement of intellectually gifted pupils, are discussed in relation to the findings of other research studies. It should be pointed out that the theoretical orientation presented in Chapter I provides the basic rationale for the relationships and assumptions used in interpreting and relating the findings to the hypotheses.

Parents Attitudes Toward OA and UA Subjects

As measured by the PARI, parents of OA gifted pupils in contrast with parents of UA gifted pupils were less authoritarian-controlling ($p = .50$) and less hostile-rejecting ($p = .10$), but the differences were not statistically significant. Contrary to expectation, parents of UA gifted pupils were more democratic in attitudes toward their children than were parents of OA pupils. Again, the difference was not statistically significant ($p = .17$). In fact, the differences between parents' attitudes on all these measures were so slight as to raise questions as to the advisability of making any interpretation of the observed differences.

Since the different roles for mother and father in our culture may foster differences in the mother-child and father-child relationship, the measures of parents' attitudes were also analyzed separately for mothers and for fathers. When the responses were analyzed separately, the same general pattern was evident in that both fathers and mothers of OA pupils were less authoritarian-controlling, less hostile-rejecting, and less democratic than were parents of UA pupils, but only the difference between fathers' attitudes of hostility-rejection was statistically significant. The fathers of OA gifted pupils were significantly less hostile-rejecting than were the fathers of UA gifted pupils ($p = .05$). This finding agreed with the hypothesized expectation.

It was expected that parents of OA gifted pupils would be less authoritarian-controlling toward their children since they would be well satisfied with their children and would have confidence in their children's self-reliance. Pierce (1959) found mothers of OA boys were significantly lower in authoritarian-controlling when compared to mothers of UA boys. Likewise, parents of OA gifted pupils would have little reason from the standpoint of the pupil's school achievement to be hostile-rejecting of the pupil. Although it was expected that these same reasons would lead parents of OA gifted pupils to be more democratic in relationships with their children, it is to be recognized that "democratic" parent-child relationships might mask a deep indifference and lack of concern on the part of a parent who is actually rejecting and punitive toward a child. In this study, the PARI was administered in a group setting to parents who were familiar with approved child rearing practices. This may have acted to produce homogeniety in the measures obtained.

In an attempt to control for some of these influences, individual interviews were made sampling attitudes of parents toward the subjects with regard to 11 relevant areas of adjustment (Attitudes of Parents Scale). Although the attitudes of parents of OA pupils tended to be more favorable than those of parents of UA pupils, as was hypothesized, consistent statistically significant differences were found with respect to only one of the 11 areas investigated, that of satisfaction with the pupil's present school adjustment ($p < .01$ for attitudes of fathers of OA and UA pupils, $p < .01$ for attitudes of mothers of OA and UA pupils, $p < .05$ for attitudes of fathers of OA and UA boys, $p < .01$ for attitudes of mothers of OA and UA boys, and $p < .05$ for attitudes of mothers of OA and UA girls). Parents of OA pupils as a group were also significantly more accepting toward their children than were parents of UA pupils as a group ($p < .05$ for fathers, $p < .01$ for mothers). Fathers of OA girls were significantly less worriedly concerned about their girls than were fathers of UA girls ($p < .05$). Mothers of UA boys were significantly more satisfied with the peer relationships of their children than were mothers of OA boys ($p < .05$). The attitudes of parents as reflected in this scale are inconsistent with expectations and, therefore, difficult to interpret. Attitudes in areas sampled by the interview which might logically be expected to be in agreement (status of physical health, satisfaction with present school adjustment, and present degree of worried concern for children) were not found to be consistently related. DiCarlo (1958) found parental goals for overachieving mentally retarded pupils were significantly higher and more realistic ($p < .05$) than parental goals for underachieving mentally retarded pupils. Parent attitudes with respect to future goals for the academically gifted OA and UA pupils of the present study were not statistically significant ($p > .60$).

Favorable parent attitudes appear to enhance successful academic achievement, but the entire matter certainly warrants more detailed investigation.

Perceived Parent Attitudes of OA and UA Subjects

Parent attitudes of acceptance and intrinsic valuation contribute to academic success by encouraging the development of a greater feeling of personal worth and a more realistic sense of personal adequacy. Moreover, the accepted and intrinsically valued child feels more confident of his ability to cope adequately with school tasks.

Pupils in the OA group did perceive themselves as more accepted and intrinsically valued than did pupils in the UA group, but the differences were not statistically significant ($p = .13$). The failure to find statistically significant differences between the two groups may be attributed to several factors. In his study, DiCarlo (1958) investigated parent attitudes whereas this scale measured perceived parent attitudes. DiCarlo (1958) also studied parent-child relationships between parents of groups of mentally retarded children, whereas our subjects were of better than average intellectual ability. It is possible, of course, that some of the subjects in the UA group may have been able to "see through" the intent of the items on the scale used to evaluate perceived parent attitudes and attempted to give responses which would mask actual perceived rejection and extrinsic valuation. Such compensatory responses would render the evaluation of their perceived parent attitudes distortedly high and spuriously favorable.

Although the findings do not demonstrate conclusively that perceived parent attitudes of acceptance and intrinsic valuation play a crucial role in determining the academic success of gifted pupils, the definite trend of the differences in the expected direction certainly warrants further investigation.

Self-Concept of OA and UA Subjects

The hypothesis stated that subjects in the OA group would have a more adequate self-concept when compared with subjects in the UA group. The adequacy of self-concept was evaluated by the Rogers Test of Personal Adjustment on which both unusually high or unusually low scores are interpreted as indicating an inadequate self-concept. The findings on the Rogers Test of Personal Adjustment revealed that the scores were in the middle ranges, as expected, for subjects in the OA group. However, the differences in the scores for subjects in the two groups was not statistically significant according to a Chi Square analysis (Chi Square = .616, $p > .30$).

The data do not support the hypothesis that OA academically gifted pupils have a significantly more realistic self-concept when compared to UA academically gifted pupils. The failure to obtain statistically significant differences between the two groups is not too surprising in the light of the exclusion of obviously emotionally disturbed pupils in the study and in consideration of the intent of the Rogers Test of Personal Adjustment to provide information primarily useful in the clinical setting. Measures of other aspects of self-concept, such as motivational or aspirational strivings, may be more useful in predicting academic success or failure.

Perceived Peer Relationships of OA and UA Subjects

It was hyopthesized that subjects in the OA groups would have a higher degree of perceived peer acceptance than subjects in the UA group. This expectation was confirmed, and the difference between the perceived peer acceptance of subjects in the OA and UA group was highly statistically significant ($p < .001$).

It was anticipated that subjects in the OA group would see themselves as more accepted by peers than would subjects in the UA group on the basis of having had more success in all situations in the past and a more realistic concept of their personal worth and adequacy. Subjects in the UA group, on the other hand, would have experienced more failures and would be more likely to doubt their personal worth and adequacy and to seek satisfactions in compensatory outlets. They would thus be more subject to peer rejection and additional failures.

The highly significant difference between the OA and UA group in peer acceptance supports the hypothesis that a high degree of perceived peer acceptance fosters academic success of gifted pupils. This finding points up the importance of the school making provisions for social interaction.

Social Maturity of OA and UA Subjects

It was hypothesized that subjects in the OA group would manifest a higher degree of social maturity than subjects in the UA group. This expectation was not substantiated. Moreover, the two groups of subjects manifested almost identical degrees of social maturity ($p > -.49$).

The failure to obtain differences between the two groups may possibly reflect the difficulties in evaluating the social maturity of gifted pupils. In this study, social maturity was evaluated by the Vineland Social Maturity Scale. This instrument was designed primarily for use with mentally retarded subjects and may not have adequately ascertained the social maturity of the academically gifted subjects in this study who are placed at an unfavorable disadvantage in that although they may have a MA of 12 years, they have real life experience of only 9 years or so. The problem of greater parental control for the higher socio-economic level child was dealt with in detail by Kaplan (1959). Other studies have found a high degree of social maturity in intellectually gifted pupils (Terman, 1925) and (Strang, 1949).

Social maturity may be defined quite differently in these studies. The Vineland taps self-reliance and independence rather than social interaction skills. The findings obtained in evaluating the social maturity of the two groups is in such marked contrast to the pattern evident in all other measures in this study and other studies as to suggest that the Vineland Social Maturity Scale may be inappropriate for use with intellectually gifted children. The data obtained as measured by this instrument, however, do not support the hypothesis that a high degree of social maturity contributes significantly to the academic success of gifted pupils. Significant differences might have been found if an instrument designed to measure social interaction skills had been used.

Creativity of OA and UA Subjects

The hypothesis that gifted overachievers are more creative than gifted underachievers was supported by the findings of this study. Overachievers scored significantly higher than their underachieving peers on the Flexibility subtest ($p < .05$) of the Unusual Uses test and on the Obvious subtest ($p < .02$) of the Consequences test. The flexibility score reflects the ability of an individual to spontaneously change his set in thinking and to branch out into new channels of thought. This is important in creative thinking as oftentimes an individual must break away from certain thought patterns and explore new directions if he is to produce a creative idea. The Obvious score reflects an ability termed ideational fluency. This ability is defined in terms of the number of ideas an individual can produce with regard to a given topic in a specified amount of time. This is associated with creative thinking because a person who produces a larger number of ideas, other things being equal, has a better chance of producing a significant idea. The significantly better performance of the overachievers on these two scores imparts some interesting information about the creative thinking of gifted under and overachievers.

In this study, overachievers tended to produce more ideas on a given topic in a specified period of time than did their underachieving peers. It appears that the experiences and knowledge that overachievers have accumulated through the years are more readily available to them and are in a more usable form than are those of underachievers. The overachiever appears more adept in being able to draw upon his experiences to help him solve newly encountered problems. Then, too, as revealed by the Flexibility scores, overachievers displayed better ability in branching out into new channels of thought than did underachievers. Hence, the data of this study indicate that overachievers are not only more fluent in their approach to new problems but they are also more flexible. The overachiever appears freer from perseveration in his thinking and more likely to be able to change his perspective when examining a problem. The underachiever, on the other hand, not only produces fewer ideas in problem solving situations, but his ideas are more likely to be concentrated around one particular aspect of the problem. He is not as flexible as the overachiever in spontaneously changing his set so as to be able to approach a problem from many different aspects.

The Remote score of the Consequences test is a measure of originality. Overachievers had higher scores on this subtest but differences were not statistically significant (p = .09). Taken into account here is the concept of novelty so intimately related to creative thinking. Here, too, overachievers scored higher than underachievers. Hence, overachievers not only produce more ideas and show more flexibility in their thinking than do underachievers, but their thinking is also characterized by more originality. Of the two groups, the overachievers were better able to produce ideas that were remote from the situation presented but yet intimately connected with this situation and relevant to it. On the other hand, the ideas produced by the underachievers were mainly obvious types of responses that the average individual is more likely to see when examining the situation. The underachievers produced some remote responses indicative of originality but their performance here was inferior to that of the overachievers. It is interesting to note that not only were the overachievers superior to the underachievers in producing remote responses indicative of originality, but they were also superior to the underachieving group in their production of obvious responses reflecting ideational fluency. Thus, it appears that overachievers are more adept than are their underachieving peers both in their ideational fluency revealed by their ability to see obvious relations in regard to a situation and also in their originality revealed by their ability to pinpoint remote and more distant relationships.

Ideational fluency is the ability measured by the Fluency score of the Unusual Uses test. Here, too, the overachievers displayed a higher peformance than the underachievers but the difference between the two groups did not reach statistical significance on this test. But as already discussed, the ability of ideational fluency was also measured by the Obvious score of the Consequences test and here the overachievers manifested statistically significant superiority to the underachievers in this ability.

This study, then, supports the hypothesis that overachieving gifted children are more creative than gifted underachievers. The findings show that they are statistically superior in two main types of abilities (Obvious, Flexibility) that Guilford and his associates (Wilson, Guilford, Christensen, and Lewis, 1954) found involved in creative thinking.

The findings of this study which indicate that overachievers are more highly creative than underachievers are consistent with the theoretical orientation of this study. It appears to be logical that the underachiever depicted in the literature (Gowan, 1957) as a youngster who withdraws from intellectual competition, devalues himself, and defensively holds to goals below his potential, is less likely to be creative than his overachieving peer who is more highly motivated to achieve. This research points out that the overachiever who performs so well in the intellectual area in school is the same individual who manifests superior performance in the intellectual area of creative thinking. Correspondingly, the underachiever who appears to withdraw from intellectual challenge in school and who consequently manifests inferior performance in academic areas tends to follow this same pattern in the area of creativity where his performance is inferior to that of his overachieving peer. As Gowan wrote, the underachiever may well be a child whose....

> "initial attempts at creative accomplishments may not have been seen by others as 'worthwhile', but only as 'queer' or 'different'. The blocking of this avenue of rewarding behavior

> by others, tending as it does to reinforce his often over-critical appraisal of the disparity between his goals and achievements, may blunt his work libido, stifle his creativity, and consign him to a routine of withdrawal and escape as the most tolerable method of insulating his ego from hurt in an alien and disinterested world."
>
> (Gowan, 1957)

Goldberg (1958) and Findley (1959) have concluded that emotional maladjustment may also be found among overachievers. However, these youngsters appear to react differently to the emotional situations which they encounter. Researchers (Barret, 1957; Flieger, 1957) have noted that while underachievers tend to lower their level of aspiration and withdraw from intellectual challenge, high achievers tend to meet their problems more realistically by coping with their environment. It appears that the overachiever is challenged to vindicate himself and he thus embarks upon a course of seeking to prove his worth and adequacy. Research investigating the relationship of personality variables to creative ability and under and overachievements seem promising of rendering valuable information as to possible reasons why over and underachievers may differ in creativity.

It is interesting to note that there was a significant difference in IQ between the over and underachievers participating in the creativity aspect of this study. The variances of the two groups on the IQ measure also differed significantly at the 5 percent level with the underachievers possessing the largest variance. However, an appropriate t test revealed that irrespective of the significant difference in variances, there was still a significant difference between the mean IQ's of the two groups. This difference was significant at the 5 percent level. The mean IQ of the underachievers was 142.05 whereas for the overachievers it was 131.48. It has been found that there is a relationship between creativity and intelligence, however; in addition to intelligence, other factors such as social and emotional adjustment and drive to accomplish have been found to be related to creativity. In this study the underachievers had the higher IQ's but were significantly lower on measures of creativity. These findings support the contention that creative ability is influenced by factors other than intelligence.

Representativeness of Findings

Subjects were selected for this study from the pupil population of two large elementary schools considered to have a high proportion of pupils of better than average intellectual ability. The variety of screening procedures used, including teacher referrals, group test of mental ability scores, achievement test scores, grades received, and vocabulary test scores, seemed to effectively identify pupils of higher than average learning potential. Final selection of gifted pupils was made on the basis of individually administered intelligence tests.

The proceudre for classifying subjects as academic over or underachievers in this study took into consideration possibilities of measurement errors and the influence of life experiences upon school achievement. The final degree of achievement discrepancy, -1 standard deviation from the mean of the group, agrees with the procedure for identifying the underachiever as suggested by Gowan (1958). This degree of discrepancy approximates one grade level between achievement and expectancy and corresponds to criteria suggested by Sears (1940) and DiCarlo (1958) for differentiating over and underachievers.

The sample of subjects used in this study is reasonably representative of gifted pupils who come from predominantly middle class socio-economic levels. It may differ from some school populations in that the percentage of gifted pupils at these two schools is much higher than the percentage of such pupils in the national population. With the rapid growth of urban areas, it is likely that similar schools and communities with comparable numbers of gifted pupils can be found. This higher percentage of gifted pupils may be related to intellectually stimulating home environments with university associated parents who reside in the community.

The sample also has a higher percentage of boys than girls who are underachievers, a finding many times verified (Jacobs, 1957, and Gates, 1961) and, to this extent, may be representative of underachieving pupils as a group.

The findings obtained in this study, which indicate that perceived peer acceptance and creative ability are positively associated with the achievement of intellectually gifted pupils, seem applicable to the general population of gifted pupils. The findings may apply in lesser extent to all underachieving pupils of varying intellectual levels.

School achievement is influenced by many factors. Although this study has implied that there are many variables contributing to school achievement, only a limited number of variables and relations between variables have been dealt with in this study. Perseverance, docility, type of teaching method used (and associated pupil pressures), and reality testing facilities, for example, which have not been considered in this study, may possibly be more crucial determinants of school success than the particular variables investigated. It is entirely conceivable, therefore, that some of the relationships found between the personality functioning and academic achievement of gifted pupils are differentially conditioned by other personality traits and by other classroom variables and/or combinations of both.

Chapter V

INTERPRETATION OF CASE STUDIES

Summary of Case Study Findings

An analysis of the detailed case study of each under and overachiever in the project has supplied additional and supplementary information concerning some of the factors associated with under and overachievement of gifted children. These case studies utilized both quantitative and qualitative data. Quantitative data incorporated the scores the children obtained on various standardized measuring instruments. Qualitative data utilized information obtained from projective techniques and from clinically structured interviews of the children, their parents and teachers, conducted by the psychologist, social worker and consultant for the gifted. Careful analysis of each case study was conducted to determine differentiating environmental and personality variables which appeared to have exerted consistently an influence upon the children in their course of ego development and their consequent adjustment to the school situation.

There were some children in both the under and overachieving groups who evidenced good all around adjustment. In these well adjusted children, the differentiating variable responsible for over and underachievement seemed to be the degree to which educational achievement was valued. For example, some well adjusted children placed high value upon academic success. Consequently, they invested considerable effort and time in their studies resulting in the attainment of educational standards beyond their levels of expectancy. Others, while showing some scholastic interest, did not invest as much effort in academic achievement and therefore achieved below expectancy. The degree of value placed upon academic success by these children seemed to be positively related to the degree to which their parents valued such success.

In both the under and overachieving groups there were children who displayed varying degrees of social and emotional maladjustment. In these instances, the maladjusted overachievers apparently compensated for their unsatisfied emotional needs in other areas by achieving at a high rate. They seemingly regarded advanced educational achievement as a means of fulfilling their needs for recognition, approval and acceptance from others. The maladjusted underachievers, however, appeared to be unable to utilize effectively their good intellectual potentials most frequently because of more severe emotional difficulties and the lack of strong educational values. As a group, the overachievers seemed to be more favorably adjusted than the underachievers.

Gifted under and overachievers displayed a number of noticeable differences. As a group, overachievers appeared to have more satisfactory relationships with their parents. They received a larger share of their parents' time and shared more activities with them. Although their parents were perceived as demanding in terms of high expectations, overachievers, nonetheless, apparently felt more intrinsically valued. The overachievers seemingly felt secure because they perceived their parents to be emotionally supporting. Underachievers manifested a greater tendency to view their parents as overcritical, disinterested and rejecting. Seemingly related to this, there was a tendency among underachievers to be more guarded and to experience more strain in interpersonal relationships. Overachievers appeared to experience less anxiety in social situations and to be more spontaneous in their relationships with others. The overachievers' ability to relate well with others was evidenced not only in relationships with adults but with peers as well. Conversely, underachievers perceived themselves as having less satisfactory peer relationships than did overachievers.

In the areas of self-confidence and independence, evaluation of the case studies disclosed further interesting information. There was a tendency among both groups to present themselves as self-reliant and relatively independent. Nevertheless, psychological evaluation of each child in the two groups indicated that the self-reliance and independence manifested by the underachievers appeared to be more of a defensive facade utilized to mask actual feelings of inferiority. The self-confidence and self-reliance manifested by the overachievers appeared to be more consistent with their levels of realistic accomplishments. Experiencing impaired self-confidence, the underachievers tended to set unrealistically low goals and to withdraw from competition. This was especially noted in the area of achievement. Underachievers seemed to have lower frustration tolerance. They appeared to lack persistence and organization in coping with difficulties. In contrast, overachievers persevered in the face of difficulty and were better organized in utilizing their personal and intellectual assets in solving a problem.

In summary, then, evaluation of the case studies disclosed the following factors which appear to be associated with academic underachievement: (1) a perceived lack of emotional support from parents; (2) poor peer relationships; (3) guardedness and lack of spontaneity in interpersonal relationships; (4) superficial self-reliance and independence used to mask feelings of inferiority; (5) unrealistic goals; (6) a high level of anxiety, latent or manifest; (7) withdrawal tendencies in competitive areas; (8) difficulty in personal integration; and (9) lack of persistence in attaining goals.

A summary of the factors associated with overachievement includes the following: (1) a feeling of closeness to parents in terms of emotional support; (2) good peer relationships; (3) spontaneity and ability to relate well to interpersonal relationships; (4) genuine feelings of self-reliance and self-confidence; (5) realistic goals; (6) above average personal integration; and (7) persistence in attempting to attain goals.

Contrary to popular conceptions, the findings indicate that overachievement is not usually a symptom of maladjustment. This research supports the contention that while overachievement in some cases represents a compensatory and maladjustive means of deriving ego status, this does not hold in the majority of cases. This finding is in essential agreement with preliminary results of contemporary research (Hobbs, 1958; Findley, 1959).

This study seems to indicate that academic underachievement is associated with varying degrees of social and emotional maladjustment and suggests that our educational system should attempt to meet the difficult challenge of alleviating the social and emotional problems of gifted underachievers so that they may utilize more effectively their intellectual assets.

Representative Case Studies

The following four case studies were selected as being representative of typical OA and UA gifted children in the study. The first two cases are of girls, one an overachiever and the other an underachiever. The last two cases are boys, one an overachiever and the other an underachiever.

Mary
(Overachieving Girl)

Overview: Mary, a ten year old upper-middle class girl of average physical size, was in the fifth grade. She obtained an intelligence quotient of 145 on an individual intelligence scale. Since Mary's academic achievement was 1.7 grades above the criterion expectancy, she was classified as an overachiever. She was seen as a well adjusted girl who had developed satisfying relationships with both her peers and parents. A stimulating intellectual home environment coupled with effective channelization of efforts and acceptance of parental values were thought to be prime factors in her overachievement.

Background: Mary was the youngest of two children born to a family of upper-middle class socio-economic status. The older child, a son, had married and left the home before Mary entered school. The father, a college graduate, held a responsible position in a local business concern. Although his work occasionally took him away from the home, he usually spent his evenings with the family. The mother, who also attended college, was not employed outside of the home and had a considerable amount of time to devote to her family. The family appeared to support and encourage Mary without pampering her. They appeared to value education and related activities such as reading and conversing on mature topics.

Information concerning Mary's early developmental history was limited. Nevertheless, she appeared to have walked and talked at an average age. She had the usual childhood diseases with no sequelae and appeared to be in excellent health.

Mary was very active outside of school. She enjoyed such sports as swimming and ice-skating. She also was a member of a singing club and the Y.W.C.A. She frequently went bicycle riding or played intellectually stimulating games such as monopoly or checkers with a close friend. Mary, however, did not participate usually in recreational activities until she had completed her homework assignments.

After attending kindergarten, Mary entered first grade in a public school when she was 6-4 years of age. Her initial adjustment to school was excellent and she immediately made good academic progress. Her grades throughout her school career were usually A's although she occasionally received a B. The teachers reported that she was usually careful to turn in her homework and to see that all routine assignments were completed. Teachers consistently reported that her written work contained original ideas. She was eager to engage in independent projects. Her relationships with her peers in the classroom and on the playground seemed to be good. She was frequently a leader in their activities.

Status of Adjustment at Time of Study: Mary appeared to be a pleasant, sociable girl of average height and weight for her age. She had no obvious speech or auditory defects, but wore corrective lenses which provided her with adequate vision. She was obviously interested in the materials used during the examination and worked quickly and effectively on most tasks. She, in particular, seemed to work effectively with those tasks which provided her with some opportunity for choice. Tasks permitting flexible solutions were especially appealing to her. She tended to become quickly absorbed in these problems and was obviously pleased with her efforts. She displayed a high degree of conceptual ability and readily grasped the significance of relationships encountered. She was able to see more than one solution to a problem.

Mary was a girl of gifted intellectual ability who felt accepted and valued by her parents. She had developed strong feelings of personal worth and self-confidence. Strengthened by these feelings, she was able to mobilize her intellectual abilities in an effective manner. She had internalized the values of her parents so that she, also, valued education. As a result, she effectively channelized her efforts in areas which resulted in high academic achievement. Because of her feelings of personal worth and self-confidence, Mary felt confident in social situations. Thus she was able to relate effectively with her peers and with adults.

Mary can be expected to learn at a very rapid rate as evidenced by her Stanford-Binet (Form L) IQ of 145. Her MA of 15-3 far exceeded her CA of 10-7 and revealed that she was capable of advanced academic achievement.

Mary's high intellectual ability and good personal adjustment were reflected in her achievement test scores. For example, on an achievement test she was reading at the tenth grade level which was two grades above her reading expectancy. In arithmetic, she was achieving at the eighth grade level which was one grade above expectancy. An analysis of her work habits and achievements suggested that although she could be somewhat creative and flexible in intellectual activities, she tended to be most successful and happiest when she was working with materials and tests that provided relatively well structured tasks which enabled her to achieve observable successes.

Mary's responses to measures of her attitudes toward her peers indicated that she felt accepted by them and that she was fairly accepting of them. Her pleasant peer relationships and her close relationship with gifted achieving peers reflected her good social adjustment. Her primary difficulty with her peers occurred when she was overly critical of their work.

Mary felt certain that her parents accepted her as a person rather than for what she achieved. Thus assured of her personal worth and intrinsic valuation, she felt confident in her ability to cope with all demands made of her, including academic tasks.

In summary then, Mary was an intellectually gifted girl who was supported emotionally and stimulated intellectually by her parents. Because of her good intellectual ability and the feelings of confidence engendered by parental support, she was successful in varied activities and was well accepted by her peers. Her academic and social successes reinforced her feelings of self-confidence and thus encouraged her to further efforts which resulted in high achievement, high creativity, and good social and emotional adjustment.

Ann
(Underachieving Girl)

Overview: Ann, a nine year old girl of slight physical build, was enrolled in the fourth grade. On an individual measure of school learning ability she achieved an intelligence quotient of 147. Since her achievement was 1.8 grade levels below the criterion expectancy, she was classified as an underachiever. Ann was an extremely confused girl who lacked the ability to develop satisfying personal relationships. This interferred with her school adjustment and achievement.

Background: Ann was the oldest of two children born to a family of middle class socio-economic status. The father was deceased when Ann was two years of age. The mother worked as a secretary to supplement the support of herself and two daughters. The mother was reported to be very intelligent, achievement oriented, and aggressive. Although somewhat accepting of the younger daughter, the mother was extremely rejecting of Ann.

The physical and developmental history obtained on Ann contained no unusual information. Although Ann was rather small and slender for her age, she appeared to be in good health. She had no obvious visual, auditory or speech defects, and her motor coordination was good.

Ann reported many leisure time activities. For example, she reported that she collected rocks and toy horses, took dancing lessons, German lessons, and music lessons. Yet, she had no sustained interest in any of these activities.

Ann entered first grade when she was 6-0 years of age. Her school adjustment has been inadequate because she was easily distracted, daydreamed in class, and failed to hand in homework. Her ideas were disorganized and lacking in imagination. Although she reported reading five or more books a month, she frequently was at a loss to give intelligible accounts of what she read. The titles of the books she reported reading indicated they were far below her expected level of interest and maturity. The teachers described her as dawdling, having great difficulty in getting organized and carrying tasks to completion, unable to work independently, and lacking in originality.

Status of Adjustment at Time of Study: The psychologist found Ann to be a thin girl of slightly less than average height for her age. Although she wore corrective dental braces, she was not unattractive. Although her skin and complexion were clear, she gave the impression of being untidy. When she entered the testing room she appeared to be happy and eager to begin the tests. She entered readily into a discussion which seemed to enable her to release nervous tension. Nevertheless, as the discussion centered upon sensitive areas, she became hyperactive to the extent that she would get up and walk around the room. Though easily distracted by outside noises and activities, she was able to concentrate for short periods of time. After the examination was over, Ann was reluctant to leave the testing room. She seemed to cling to the feelings of warmth and acceptance that she discovered in her relationship with the examiner.

The psychological findings indicated that Ann was a girl of gifted intellectual ability who had serious emotional conflicts. The basis for her conflicts stemmed from her feelings of parental rejection. This feeling was so extreme that Ann felt that she had been completely divorced from any emotional acceptance or interchange with significant adults, particularly her mother. As a consequence of her rejection, she had come to feel very insecure. Hence, she became engaged in a rivalrous situation with her sister. She seemed to be aware of this disturbed relationship and yet had difficulty in bringing it to conscious awareness. In order to cope with these feelings, she attempted to win friends by asserting herself. When rejected, she tended to withdraw within herself and to resort to daydreaming activities in order to meet her emotional needs. Although Ann relieved much of her tension through an active fantasy life, she was still well oriented to reality.

On the Stanford-Binet, Form L, Ann achieved a mental age of 14-3, which when compared with her chronological age of 9-2, yielded an IQ of 147. On an achievement test Ann was achieving in reading at a rate that was 1.4 grades below expectancy and achieving in arithmetic at a rate that was 2.2 grades below expectancy. Although Ann's academic achievements were beneath her level of expectancy, they, nonetheless, represented considerable effort and attainment in view of her emotional maladjustment. Her accomplishments apparently resulted from her tendency to view academic accomplishments as a means of securing approval and acceptance from significant adults. Despite this perception, Ann was unable to utilize fully her good intellectual ability because of her feelings of insecurity and rejection and thus was an underachiever.

Ann freely verbalized that her parents liked her only if she did exactly what she was told to do and even then nagged at her to do better. Self-doubts engendered by her feelings of parental rejection rendered her unable to establish satisfying peer relationships as was evidenced by her difficulties in social situations in the classroom and on the playground. Ann complained that no one liked her and expressed resentment over her lack of friends. For example, she reported that it was difficult for her to talk to her class, that she sometimes felt like hitting other children, and if she could, she would rather stay home than come to school.

In summary then, Ann was a highly intellectually gifted girl who was capable of achieving at the eighth grade level on the basis of her measured intellectual potential but is almost two grades below expectancy. Deep seated social and emotional maladjustment stemming from parental rejection has impaired her self-concept to the extent that she does not have sufficient confidence to make use of her good abilities. Her lack of confidence was reflected in her inability to relate to her peers and her hesitancy to creatively express herself.

Robert
(Overachieving Boy)

Overview: Robert was a nine year old middle class boy of wiry physique who was in the fourth grade. On the Stanford-Binet, he earned an intelligence quotient of 135. Robert's reading achievement was 4.1 grades above the criterion expectancy and consequently, he was classified an an overachiever. Robert perceived every task in school or on the playground as a challenge. His well integrated approach to work has contributed significantly to his overachievement.

Background: Robert was the only child born to a family of middle class socio-economic status. The family consisted of father, mother, and son. The father, a high school graduate, was employed as a salesman. In the evenings and on the weekends he spent much of his time as a counselor for youth groups. He was observed frequently to encourage children to work together and to strive to achieve. The mother attended college for two years and was employed occasionally as a part-time receptionist. The family was very attentive to every detail of Robert's life. They attempted to provide Robert with consistent, but broad limits which allowed him a considerable amount of flexibility. Although they had certain, well defined ambitions for him, they realized that he had a mind of his own and probably might make some other choice.

Information concerning Robert's developmental history indicated that he walked and talked at ages that were slightly earlier than average. He had the usual childhood diseases but appeared to recover quickly and without obvious difficulty. He had no apparent visual, auditory or speech defect and his motor coordination appeared to be excellent.

Robert was interested in all aspects of sports and was active in football, baseball, and basketball according to the season. His above average success in the sports area was as much attributable to his effort as to his skill and knowledge. A developing interest in music was beginning to make additional demands on Robert's free time.

Robert entered first grade when he was 6-5 years of age. He had some difficulty in adjusting to the limits of the classroom but settled down quickly and made excellent progress--A's in all subject areas. His work habits were exceptionally good because he planned carefully and exercised good judgment. Although he was a good organizer, his thinking was not rigid. He displayed a high level of creative ability.

Status of Adjustment at Time of Study: Robert was a wiry attractive boy of average height and weight for his age. He appeared to be talkative and sociable, assessed quickly situations, and indicated readily his desire to meet the challenge of tasks. Although he seemed to have mild feelings of uncertainty about tests, this uncertainty only served to increase his efforts to do the best job possible. All answers to verbal portions of tests were thoughtfully and quickly given. On the timed portions of tests, his performance was well organized and rapid.

Robert, a boy of gifted intellectual ability, manifested feelings of being intrinsically valued by his parents. As a result, he had developed a secure feeling of personal worth and self-confidence. Moreover, he felt that he received additional reinforcement for achievement. Consequently, he perceived all activities as a challenge, perhaps because he knew that he would receive approval and recognition for success and sympathetic understanding in the case of failure. Robert's evaluation of reality was good and he demonstrated no need to distort reality because of psychological threat. Peer relationships occasionally created problems for

Robert because his assertive behavior tended to alienate certain potential friends. Despite this behavior, he had a few close friends and many acquaintances so that his rejection by a minority presented no problems. Because of his self-assertion, he was frequently the leader in activities, but his leadership was usually appropriate and positive.

On the Stanford-Binet, Form L, Robert earned a mental age of 13-0 which when compared with his chronological age yielded an IQ of 135. Robert's high intellectual ability and well integrated behavior resulted in achievement that was, on the average, above expectancy. For example, Robert's reading achievement score, which was 4.1 grades above expectancy, reflected his ability to benefit from individual effort and from a strong interest in reading. In arithmetic, on the other hand, Robert was .7 of a grade below expectancy which possibly reflected lack of appropriate curriculur stimulation.

Robert's comments indicated he was realistically aware of conditions in the home. For example, he felt that his parents loved him and valued him for himself as a person. He also recognized that they were pleased with his high achievements.

A similar reality orientation was evidenced with respect to his peer relationships. Although Robert enjoyed a high degree of acceptance and recognition from his schoolmates, he acknowledged the fact that he was not liked by everyone.

In summary, Robert had been emotionally supported by his parents and encouraged to high achievement. Because of their provision of broad limits, support, and encouragement, Robert had developed a feeling of self-confidence and a willingness to attack difficult problems and to persist with the assurance of eventual success. Since his efforts were rewarded frequently with success, he had been encouraged to raise his levels of aspiration and to continue his efforts. Academically, his achievement was more pronounced in the area of reading where his individual effort was not so easily limited by a curriculum that presented materials selected on the basis of current grade placement rather than a selection of materials and a presentation of more advanced concepts compatible with high intellectual potential. The impact of these limitations imposed by the curriculum were even more evident when his arithmetic achievement was considered. Robert's favorable parent attitudes, good peer relationships, and adequate self-concept all contributed to making maximum use of his high intellectual abilities.

Don
(Underachieving Boy)

Overview: Don, a ten year old upper-middle class boy, was in the fifth grade. On an individual measure of school learning ability, Don achieved an intelligence quotient of 162. Don's academic achievement was two grades below the criterion expectancy, hence he was classified as an underachiever. Don was a rather well integrated boy who had developed a close relationship with his father who set limited educational goals for Don. Acceptance of these goals, a tendency to do things his own way, and an inadequate academic program have all contributed to Don's underachievement.

Background: Don was the second of three children born to a family of upper-middle class socio-economic status. The father completed three years of college and was currently employed as a construction foreman. The mother attended college one year and was not currently employed outside of the home. The educational goals of the home were reportedly rather low in comparison with Don's good intellectual ability and with the parents' academic background. The father held only average academic expectations for Don. Apparently there was a very close relationship between Don and his father in that they spent a great deal of time together gardening and working on the house.

During the preschool years, Don is reported to have had allergies and asthma. He passed the vision and hearing screening tests conducted in the schools and had no speech defects.

Don was busily occupied with many interests. He reported that he enjoyed baseball, croquet, badminton, and tinkering with mechanical things. He had recently joined the Boy Scouts and actively participated in this group. Don also spent a great deal of his time reading. Biographies of famous people were of particular interest to him.

The parents did not enroll Don in kindergarten. He entered the first grade when he was 6-1 years of age. The parents reported that his first year in school was a difficult one because the teacher was very demanding. The parents explained that his third year in school was also difficult because the teacher was not understanding. While Don received a few A's, his grades were predominantly C's. The teachers reported that Don was frequently more interested in reading adventure stories or science fiction than spending his time on assigned academic work. The teacher reported that he had many ideas but they were frequently far-fetched and were judged as impractical by his classmates. His greatest problem in the classroom appeared to be his own difficulty in accepting and respecting the opinions and attitudes of others. Usually he ignored others' ideas if he did not agree with them.

Status of Adjustment at Time of Study: Don's behavior was characterized by restlessness and nervousness. In spite of these difficulties, he was able to establish good rapport and seemed to give the impression of being an alert, pleasant youngster. Perhaps the most outstanding characteristic of his behavior was his need to do things in his own manner. This individuality, at times, resulted in his receiving lowered scores on certain subtests.

Don's failure to work up to capacity seemed to stem from the complex interaction of several factors. Primary among these was Don's strong identification with his father who held educational goals that were beneath his son's level of ability. In fact, there was some evidence that Don was over-dominated by his father. Furthermore, through his identification with his father, he had apparently accepted some of his father's tendencies to be opinionated and non-conforming. Such individuality operated to lower his efficiency in the classroom since he was inclined to hold tenaciously to his own views, some of which were openly rejected by his peers. There were indications of counteraction of rebelliousness and defiance on Don's part.

On the Stanford-Binet, Form L, Don achieved a mental age of 16-2 which when compared with his chronological age yielded an IQ of 162. Thus, Don was of unusually high intellectual ability. Don's powers of conceptual thinking were at an advanced level and his ability to define words was tremendous. His performance in many areas, however, was depressed by his insistance upon using an approach which was so non-conforming as to render his responses inappropriate and invalid.

On the achievement test Don was reading at the 8.2 grade level which was .9 below the expectancies established for him by the criterion measures. Moreover, he was achieving in arithmetic at the 5.0 grade level which was 3.1 years below expectancy. A significant factor in Don's underachievement, of course, was his tendency to rebel against any demands for conformity, including academic expectations. It is somewhat easier to understand his resistance in the area of arithmetic where he was expected to do repetitive homework that was inappropriate for an individual of his intellectual capabilities. Thus, his assignments were monotonous and boring to him.

In summary, Don's tendencies to rebel against school and his production of advanced or unusual ideas frequently set him apart from other children. In addition, his inability to accept their ideas also alienated friends and evoked overt rejection. Don had only limited awareness of this problem. Lack of social skills and insensitivity to the feelings of others deprived him of another possible source of satisfaction in school. He has internalized the value system of his parents which deemphasizes academic achievement. His pattern of behavior has gained him support, approval and recognition from his parents. On the other hand, the tremendous intellectual potential of this boy has been relatively untapped.

Chapter VI

SUMMARY AND CONCLUSIONS

Problem

This study investigated the relationship of certain variables with the academic achievement of pupils of superior intellectual ability. It was hypothesized that high achieving academically gifted pupils as compared to low achieving academically gifted pupils received the benefit of more favorable parental attitudes, perceived themselves as more accepted and more intrinsically valued by their parents, were more creative, were more socially mature, and were more realistic in their self-concepts.

Organization of Study

Subjects were selected from two large elementary schools. Subsequent to preliminary screening, 465 children were administered the 1937 Stanford-Binet. A total of 223 pupils were found to have intelligence quotients of 120 or higher and were classified as gifted. Achievement grade expectancies in reading and arithmetic were compared with corresponding achievement test scores. Pupils whose averaged achievement discrepancies deviated minus one standard deviation or more from the mean of their group were defined as underachievers and those whose achievement deviated plus one standard deviation or more from the mean of their group were classified as overachievers. A group of 41 overachievers and a group of 41 underachievers were identified. The differentiating variable was grade achievement discrepancy.

Measuring Devices

Parent attitudes were measured by the Parental Attitude Research Instrument and the Attitudes of Parents Scale. Perceived parent attitudes were measured by the Perceived Parent Attitudes Scale. Items from the California Test of Personality were used to measure perceived peer acceptance. Social maturity was evaluated by the Vineland Social Maturity Scale. Self-concept was assessed by the Rogers Test of Personal Adjustment. Creative ability was measured by adaptations of two tests designed by Guilford. Additional qualitative data were obtained in interviews and observations of subjects. After careful pilot testing to ascertain comprehensibility, the measuring instruments were administered in the pupils' school building.

After careful consideration of the underlying rationale, scores yielded by measuring instruments were analyzed by appropriate methods to determine the statistical significance of differences between the two groups. A .05 level of significance was used in interpreting differences between scores.

Results

1. Parent Attitudes: The parents of subjects in the OA group, in contrast to the parents of subjects in the UA group, were less authoritarian-controlling ($p = .50$), and less hostile-rejecting ($p = .10$), but also less democratic ($p = .17$) toward their children. When analyzed separately, attitudes of mothers and fathers followed the same pattern, but fathers of OA pupils were significantly less hostile-rejecting than were fathers of UA pupils ($p = .05$). The parents of subjects in the OA group, in contrast to parents of those in the UA group, expressed more favorable attitudes toward their children regarding eleven relevant

adjustment areas. Statistically significant differences ($p = < .05$) were found in one area. Although differences in the other areas were generally in the predicted direction, they did not reach the agreed upon level of statistical significance.

2. Perceived Parent Attitudes: The subjects in the OA group when compared to those in the UA group did, as predicted, see themselves as more accepted and intrinsically valued by their parents ($p = .13$).

3. Perceived Peer Acceptance: The subjects in the OA group perceived themselves as being more accepted by their peers than did subjects in the UA group ($p = .001$).

4. Self-Concept: Subjects in the OA group, when compared to those in the UA group, were more realistic in their self-concept (Chi Square = .616, $p = < .30$).

5. Social Maturity: There was no difference in the social maturity of the subjects in the OA and UA groups ($p = > .49$).

6. Creativity: Subjects in the OA group had a higher degree of creative ability than did subjects in the UA group (Obvious Uses, $p = < .02$, Flexibility, $p = < .05$).

Thus, the differences between gifted OA subjects and gifted UA subjects were generally in the hypothesized direction. The overachieving subjects had statistically significant higher scores on measures of creativity ($p < .05$) and perceived peer acceptance ($p = .001$).

Implications of Findings for Educational Programs

The findings of this study suggest that the high educational achievement of intellectually gifted pupils in the elementary grades is related significantly to creativity and a high degree of perceived peer acceptance. If this be so, educational programs for intellectually gifted pupils should place corresponding emphasis upon these particular aspects. Although other factors investigated (parental attitudes, self-concept, and social maturity) were not found to be related statistically to achievement, the overachievers scored more favorably on most instruments and were generally better adjusted socially and emotionally. Case study data reinforce these findings. The results of this study suggest the following educational implications:

Administrative and Organizational Planning

There must be provisions for identification of intellectually gifted pupils, hopefully at the first grade level or ideally before school entrance. This would appear to be best accomplished by individual psycho-educational studies which requires an adequate staff of psychologists. It seems advisable to provide this service at appropriate points in the educational and psychological development of the gifted. Such a plan might well make available individual psychological examinations for pupils in the primary grades and again at the junior high level. Spaced individual psychological examinations will insure identification of larger numbers of gifted pupils and will enable the schools to detect underachievers as early as at the termination of grade one. Group measures are unlikely to identify the underachieving gifted pupils. An obvious conclusion is that public school systems should have enabling funds for the employment of qualified psychologists.

Since creative ability is related significantly to high achievement, educational programs should be flexibly organized, with provisions for acceleration and enrichment planned to advance skills such as critical evaluation, creative ability, and reasoning. Ungraded classes and adaptable arrangements for making use of specially trained teachers are seen as more appropriate for developing creative potentials of the intellectually gifted than repetitious drill and sequential grade presentation of materials and concepts. In some instances, findings from individual psycho-educational evaluation of the gifted pupil may suggest the appropriateness of such administrative provisions as early entrance into school, special class placement, and plans for remedial instruction in order to insure peer acceptance and the development of creative abilities.

These educational programs and objectives should be interpreted carefully to parents in the light of the psycho-educational characteristics and needs of the intellectually gifted pupil to facilitate favorable parental interests, attitudes, and understandings which are conducive to promoting academic achievement and those factors found to be associated with high achievement.

In order to prepare effectively intellectually gifted pupils for their roles as leaders in our society, there must be an on-going program of evaluation of the adequacy of the educational programs offered. This evaluation requires the skills of trained guidance counselors, curriculum consultants, and in-service training programs. Budgetary appropriations should also take into consideration the part played by these specialists in contributing to appropriate educational programs for the intellectually gifted pupils.

Instructional Methods

In view of the importance of peer acceptance and creative ability in contributing to the educational achievement of the intellectually gifted pupil, methods of instruction should foster the development of these factors. Since peer acceptance is related to high achievement in our middle class culture, then it is imperative that the school motivate and channel the gifted in the successful pursuit of academic achievement. The demands of ultimate positions of leadership and high responsibility in our society, and associated needs for appropriate social skills and understandings, must be kept in mind. Teaching techniques centering about practice in divergent and convergent thinking, in contrast to meaningless rote sequential presentations, are more likely to be regarded as challenging and rewarding by the intellectually gifted pupil. Creative ability can probably best be stimulated by instructional methods which make liberal use of individual assignments based on pupils' needs, problem solving, and individual research.

There is reason to believe that classroom programs can be manipulated so as to foster a greater likelihood of success for the intellectually gifted pupil. Since overachievement is associated with emotional stability, appropriately high goals and expectations can be established for the intellectually gifted pupil without fear of jeopardizing the pupil's physical or mental health.

The Classroom Teacher

Central to any educational provisions for influencing favorably the academic success of intellectually gifted pupils is the classroom teacher. The investigators believe that the personal qualifications of the classroom teacher may outweigh other important considerations such as degree or type of professional training, instructional methods, or materials of instruction. In order to favor the development of creative ability and peer acceptance, and thus academic success, for the intellectually gifted pupil, the teacher should have a sympathetic understanding and acceptance of the psycho-educational characteristics and needs of the gifted pupil. Observably, a high degree of self-sufficiency, sensitivity to change, capacity to see many approaches and solutions to a problem, and high conceptual ability are qualities of the teacher necessary to promote adequate social, emotional, and academic development in pupils which lead to peer acceptance, high creative ability, and associated academic success.

Given these personal qualities, the effectiveness of the teacher may be augmented by provisions for attending workshops, seminars, in-service training programs and formal courses pertaining to psycho-educational problems and methods applicable to the intellectually gifted pupil.

Materials of Instruction

Materials that lend themselves to the fostering of creative abilities are seen as particularly appropriate for use with the intellectually gifted. Such materials should be adaptable to group work which provides the gifted with opportunities for developing and refining a high degree of peer recognition and acceptance that is associated with high academic achievement. In the light of these considerations, expanded library facilities with a variety of reference volumes, books dealing with technical areas, and compendiums of factual information (almanacs, handbooks) rather than a single text, are the materials which will encourage the investigation of the how and why as well as the what of the world about us. Such provisions for the active discovery of the fascination of our universe will encourage the continuation of expanding academic successes and prevent the formation of negative attitudes toward school, poor work-study habits, a sense of personal frustration, and an associated poor school achievement. Adequate library facilities must be supplemented by selected audio-visual aids, materials for carrying out project assignments, and the maximum use of available community resources (museums, industrial plants, exhibits, laboratories) as these materials are relevant to the stimulation of creative potential and contribute to the maintenance of a high degree of peer acceptance.

Need for Further Research

Administration

The findings of this study indicate that creative ability and peer acceptance are associated significantly with the academic success of intellectually gifted pupils. The part played by other variables that may contribute to the academic success of intellectually gifted pupils warrants additional research. Knowledge of the role of these factors contributing to differential academic outcomes is pre-requisite to effective educational planning for the intellectually gifted pupil. Administrators must be made aware of this need for added study and investigation of problems. A liberal budget must be provided for research, time for research must be allocated to certain staff personnel, and, in other cases, research specialists must be added to existing staff complements. Administrators must assume the responsibility for providing the structure for evaluating research investigations.

Personnel

In view of the unequivocal importance of the classroom teacher in fostering the academic success of intellectually gifted pupils, the classroom teacher is in a uniquely favorable position for recognizing crucial problems and phenomena which warrant research exploration. Moreover, research findings are ineffectual unless implemented and put to use by the classroom teacher. From this consideration, the classroom teacher assumes necessarily a primordial position as a research investigator. The research efforts and skills of the classroom teacher may be extended by making available the help of research consultants, by providing for the time and facilities required to conduct research studies, by holding in-service or other training programs in research methodology, and by offering liberal encouragement such as salary differentials, recognition and approval for research investigations.

Suggestions for Additional Research Studies

It must be recognized that some of the positive relationships between creative ability and peer acceptance and the academic achievement of intellectually gifted pupils may be conditioned differentially by other personality or classroom variables. This possibility suggests the need for additional studies investigating the school achievement of intellectually gifted pupils. One such line of investigation might entail the replication of this study by using larger numbers of subjects in the hopes that increased number of subjects might be conducive to ferreting out more differences between OA and UA. More sophisticated measures must be developed for the study of other factors which may influence the academic success of intellectually gifted pupils.

Further studies of factors contributing to the school achievement of academically gifted pupils should seek to investigate the influence of other possibly relevant personality variables for which there are adequate measuring instruments. Work habits revealed in approaches to problems, reactions to successes and failures, goal striving, reality of self-confidence, and conformity suggest themselves in this respect. Exploration of these variables which influence academic achievement should be investigated with subjects from varying and extreme socio-economic groups.

Another line of needed investigation would entail long term evaluations of homogeneous and heterogeneous organizational plans, autocratic and democratic teaching methods, special training for teachers, use of special materials, and the influence of teacher workshops and special study groups as these affect the school achievement, creative ability, and peer acceptance of academically gifted pupils.

Other long term studies should be made exploring the efficacy of providing such adjunctive services as trained curriculum consultants, social workers, educational guidance personnel, and vocational counselors as procedures for fostering academic success for the academically gifted pupil. Finally, longitudinal studies should investigate changes in high and low achieving gifted pupils at selected points of their in-school years and follow-up their post-school adjustment.

2

REFERENCES

Ausubel, D.P. Ego development and the personality disorders. New York: Grune & Stratton, 1952.

Ausubel, D.P., B.B. Balthazar, Irene Rosenthal, L.S. Blackman, S.H. Schpoont, & Joan Welkowitz. Perceived parent attitudes as determinants of children's ego structure. *Child Develpm.*, 1954, 25, 173-183.

Barret, H.O. An intensive study of 32 gifted children. *Personnel guid. J.*, 1957, 36, 192-194.

Davis, A. Social class influence upon learning. Cambridge: Harvard Univ. Press, 1949.

DiCarlo, L.M. A comparative study of some characteristics in achievers and non-achievers among children with retarded mental development. 1958, Syracuse University Research Institute.

Drews, Elizabeth. A four year study of 150 gifted adolescents. Paper presented at APA meeting, New York, 1957.

Drews, Elizabeth & J.E. Teahan. Parent attitudes and academic achievement. *J. clin. Psychol.*, 1959, 61, 328-332.

Edminston, R.W. & L.C. McBain. Social and economic background affects school achievement. *Sch. Soc.*, 1945, 61, 190-191.

Findley, W.C. Fallacies in the concept of overachievement. Remarks of vice-president and chairman, Section Q-Education, AAAS, Chicago, December 29, 1959.

Flieger, L.A. Understanding the underachieving gifted child. Psychol. Rep., 1957, 3, 533-536.

Gallagher, J.J. Three year report on a study of curriculum adjustment in Champaign-Urbana Schools. Urbana, Ill., Inst. for Res. on Excep. Child., 1957.

Gates, A.I. Sex differences in reading ability. *Elem. Sch. J.*, 1961, 431-434.

Getzels, J.W. & P.W. Jackson. A study of the career aspirations of highly intelligent and of highly creative adolescents. Paper presented at APA meeting, 1959, Cinn., Ohio.

Goldberg, Miriam L. Motivation of the gifted. In N.B. Henry (Ed.), *Yearb. nat. Soc. Stud. Educ.*, Part II, 1958, pp 87-107.

Gowan, J.C. Dynamics of the underachievement of gifted students. *Except. Child.*, 1957, 24, 98-101.

Guilford, J.P. Creativity. *Amer. Psychol.*, 1950, 5, 444-454.

Hobbs, N. Motivation to high achievement. Address presented at national convention of ICEC, Kansas City, April 8-12, 1958.

Hollingworth, Leta S. Gifted children their nature and nurture. New York: Macmillan, 1926.

Jacobs, J.N. A study of the performance of slow learners in the Cincinnati public schools on mental and achievement tests. *Amer. J. ment. Defic.*, 1957, 62, 238-243.

Kahl, J.A. Educational aspirations of "common man" boys. *Harvard Educ. Rev.*, 1953, 23, 186-203.

Kaplan, L. Mental health and human relations in education. New York: Harper Bros., 1959.

Kimball, Barbara. Case studies of educational failure during adolescence. *Amer. J. Orthopsychiat.*, 1953, 23, 406-415.

Kurtz, J.J. & Esther Swenson. Factors related to overachievement and underachievement in school. *Sch. Rev.*, 1951, 39, 156-210.

Lewis, D.W. A comparative study of the personalities, interests, and home backgrounds of gifted children of superior and inferior educational achievement. *Ped. Sem.* and *J. genet. Psychol.*, 1941, 59, 207-218.

Loevinger, Jane. Intelligence as related to socio-economic factors. In G.M. Whipple (Ed.), *Yearb. nat. Soc. Stud. Educ.*, 1940, 39, pp 156-210.

Meer, B. & M.I. Stein. Measures of intelligence and creativity. *J. Psychol.*, 1955, 39, 117-126.

Pierce, J.V. The educational and motivational patterns of superior students who do and do not achieve in high school. 1959. Univ. of Chicago.

Portland Public Schools. The gifted child in Portland. Portland, Oregon: 1959.

Pressey, S.L. Intelligence levels and school achievement of the white and colored races in the U.S. *Ped. Sem.*, 1923, 30, 69-84.

St. John, C.W. Educational achievement in relation to intelligence. Cambridge: Harvard Univ. Press, 1930.

Sears, Pauline S. Levels of aspiration in academically successful and unsuccessful children. *J. abnorm. soc. Psychol.*, 1940, 35, 498-536.

Schaefer, E.S. & R.T. Bell. Development of a parental attitude research instrument. *Child Develpm.*, 1958, 29, 339-361.

Siegel, S. Non-parametric statistics for the behavioral sciences. New York: McGraw-Hill, 1956.

Strang, Ruth. Manifestations of maturity in adolescents. *Ment. Hyg.*, N.Y., 1949, 33, 563-564.

Symonds, P. The ego and the self. New York: Appleton-Century-Crofts, 1951.

Terman, L. Genetic study of genius: Vol. I. Mental and physical traits of a thousand gifted children. Palo Alto, Calif.: Stanf. Univ. Press, 1925.

Terman, L. & Melita Oden. Genetic study of genius: Vol. IV. The gifted child grows up. Palo Alto, Calif.: Stanf. Univ. Press, 1947.

Walsh, Ann. Self-concept of bright boys with learning difficulties. New York: Tchr's. Coll., Columbia Univ., 1956.

Wilson, R.C., J.P. Guilford, P.R. Christensen, & D.J. Lewis. A factor analytic study of creative thinking abilities. Psychometrika, 1954, 19, 297-311.

Zuckerman, M., Beatrice Barrett-Ribback, I. Monaskin, & J.A. Norton. Normative data and factor analysis on the Parental Attitude Research Instrument. J. consult. Psychol., 1958, 22, 165-171.

APPENDIX

PERCEIVED PARENT ATTITUDES SCALE

CHILDREN AND PARENTS

DIRECTIONS:

Children have certain feelings about their parents. Last year we asked some children in another school how they felt about their parents. They said some of the ways they felt. We would like to know if this is how it is with you and your parents.

Now, look at the sample below while I read how we will do it.

Sample

1

Always Yes

This is the way
it always is with
my parents.

2

Usually Yes

This is the way
it usually is
with my parents.

3

Sometimes Yes,
and
Sometimes No

This is sometimes
the way it is and
sometimes it is
not this way with
my parents.

4

Usually No

This is the way
it hardly ever is
with my parents.

5

Always No

This is the way
it never is with
my parents.

Read each statement and then put a circle around the number that tells how it is with you and your parents, like this:

1 2 3 4 5 (1.) My parents want me to have lots of friends.

1 2 3 4 5 (1.) No matter what happens, I know that I can always turn to my parents for help.

1 2 3 4 5 (2.) My parents are nice to me most of the time, even when I do wrong.

1 2 3 4 5 (3.) Sometimes if I make a mistake my parents say that can happen to anyone.

1 2 3 4 5 (4.) My parents often tell the neighbors when I've done something wrong.

1 2 3 4 5 (5.) I know my parents love me.

1 2 3 4 5 (6.) My parents always tell me that something bad will happen to me if I don't behave.

1 2 3 4 5 (7.) My parents just don't care about what happens to me.

1 2 3 4 5 (8.) My parents punish me even if I didn't do something wrong.

1 2 3 4 5 (9.) Everytime I make a mistake my parents get angry and yell at me.

1 2 3 4 5 (10.) I'm always scolded when I don't pick up my toys.

1 2 3 4 5 (11.) I can't tell my parents anything.

1 2 3 4 5 (12.) My parents act as if I were in their way.

1 2 3 4 5 (13.) When I have something to say, my parents listen.

1 2 3 4 5 (14.) My parents are interested in me.

1 2 3 4 5 (15.) My parents never punish me for something I didn't do.

1 2 3 4 5 (16.) When I'm sick my parents are very worried and try their best to make me well.

1 2 3 4 5 (17.) Sometimes my parents punish me more than I deserve to be.

1 2 3 4 5 (18.) I can tell my parents about the things I do and they seem to understand.

1 2 3 4 5 (19.) I'm afraid my parents will stop loving me if I get bad marks.

1 2 3 4 5 (20.) If I did more, my parents would like me better.

1 2 3 4 5 (21.) No matter how I do things, I know my parents like me.

1 2 3 4 5 (22.) My parents want me to be somebody important when I grow up.

WHEN YOU FINISH THIS PAGE PLEASE TURN OVER TO THE NEXT PAGE

1 2 3 4 5 (23.) Sometimes I feel like doing something bad just to see if my parents will still love me.

1 2 3 4 5 (24.) My parents don't push me into things.

1 2 3 4 5 (25.) My parents have already decided what I'm going to be.

1 2 3 4 5 (26.) As long as I do my best my parents are satisfied even if other children can do things lots better.

1 2 3 4 5 (27.) My parents give me special treats to ge me to do things better.

1 2 3 4 5 (28.) Somehow I know that no matter what happens, my parents will always love me.

1 2 3 4 5 (29.) As long as I do my best my parents are satisfied.

1 2 3 4 5 (30.) My parents always nag me to do things better.

1 2 3 4 5 (31.) My parents are nicest to me when I am good in school.

1 2 3 4 5 (32.) My parents feel that I am important, not what I do.

1 2 3 4 5 (33.) My parents often talk about what I am going to be when I grow up.

1 2 3 4 5 (34.) My parents like to have me show off in front of company.

1 2 3 4 5 (35.) My parents never listen to what I have to say.

1 2 3 4 5 (36.) My parents like me as I am.

PARENT INTERVIEW

PARENT INTERVIEW BY SOCIAL WORKER

Introduction to interview: (Supposedly the parent will already have been given the PARI, at which time additional explanation of the study would have been made. This statement preceding the interview would be a general explanation of the purpose of the interview, the confidentiality of material, appreciation of their cooperation, all with an attempt to put them at ease. They could ask question or comment before we began on the questions.)

I. Achievement: (Expectations regarding the child's achievement upon entering school).

1. "Think back to when ________ began the first grade. What did you expect of him?"

   (If further questioning is needed, "How did you think he would get along with the school work and the other adjustments?)

2. (Expectations regarding meaning of school to child) "Can you remember how ________ felt about starting to school?

3. (What parents expect school to do for child:) "What, in your opinion, is the best thing the elementary school can do for the child?"

4. (Expectations for future occupational achievement of child) "Do you have any special ambitions for ________; any ideas what you would like for him to do or be when he grows up?"

II. Meaning of School to Parent:

5. "Think back to your own elementary school days. What in general did they mean to you?"

   (If needed, "What kind of experiences did you have?")

III. Peer Group Relationships:

6. "In general, how do you think ________ gets along with his playmates?"

   (If needed, "Can you explain further to me?")

7. "How do you feel about ________'s playmates?"

   "In general, do you like them for him, or do you wish he played with others?"

IV. Relationships to Siblings:

8. "I notice that ________ has ____ brothers and/or ____ sisters. How does he seem to get along with them

9. "Does he have any special problems with any of them?"

10. "Which one is he closest to or most like?"

11. "How is he different from the others?"

V. Marital Relationships:

12. "Can you tell me some of the ways you and your husband (or wife) share responsibility for ________."

13. "What are the things ________ looks to you for?"

14. "What are the things ________ looks to your husband (or wife) for?"

VI. Preschool Years:

15. "Will you tell me some of the problems ________ has had at different stages and ages -- the kinds of things that may have concerned you at different times. Let's start back when he was a baby. Was there anything in his first year of life that was a concern to you or difficult about his care?"

16. "How about it by the time he was two and three years old?"

17. "What do you remember about him when he was four and five?"

(If needed, "Do you recall anything special about walking, talking, weaning, toilet training, etc.?")

(If needed, "Any concern about his sleeping or eating pattern?")

18. "Can you recall any unusual circumstances in your life or ________'s life during the year or two before ________ entered first grade? Or was life very much like now?"

VII. Problems Since Starting to School:

19. "Almost all children have problems of one kind or another at school each year. Sometimes they are the same ones we see at home and sometimes they are different. What do you think ________'s chief development at school have been up to now?"

20. "What are the things about ________'s present stage of development that may concern you -- anything about his behavior at home or school or neighborhood that you feel he needs your help on."

21. "Can you tell me what you have found to be the best way of helping ________ when something is bothering him or concerning him -- or is he behaving in a way that is unacceptable to you?"

VIII. Health:

22. "Just one more question now and then we're through. Has ________, in general, been in good health or has he had more than usual illness or special illnesses?"

23. "How would you describe his general state of health now?"

General statement terminating interview.

TESTS OF CREATIVITY

Name____________________________________

School:__________________________________ Grade_____

Date:____________________________________

CONSEQUENCES

DIRECTIONS: It is fun to use our imaginations and to think of all kinds of thinks that could happen if ome thing was changed.

Look at the example below.

EXAMPLE: What would happen if people no longer needed or wanted sleep?

1. Get more work done.
2. Alarm clocks not necessary.
3. No need for lullabye song books.
4. Sleeping pills no longer used.

Of course, there are many other things besides those written down that might happen.

On each page one change is written down. You are to use your imaginatio and write down all the things that might happen if this change too place. You wi have so much time on each page. When the signal is given (not yet) turn the page begin. If you finish a page before time is called, WAIT for the signal before going to the next page. Once time is called on a page you may NOT go back to that page.

Remember, for each change write down as many things that might happen because of this change that you can think of.

Are there any questions?

What would happen if people no longer needed food in order to live?

STOP HERE. WAIT FOR FURTHER DIRECTIONS

What would happen if people never died?

STOP HERE. WAIT FOR FURTHER DIRECTIONS

What would happen if everyone were born with three fingers and no thumb?

STOP HERE. WAIT FOR FURTHER DIRECTIONS

What would happen if there were no more mirrors in the world?

STOP HERE. WAIT FOR FURTHER DIRECTIONS

What would happen if suddenly everyone lost the ability to read and write?

STOP HERE. WAIT FOR FURTHER DIRECTIONS

What would happen if people changed so that each person wanted to live alone instead of with others?

STOP HERE. WAIT FOR FURTHER DIRECTIONS

Name:______________________________

School:____________________________ Grade:_____

Date:______________________________

UNUSUAL USES

DIRECTIONS: On each page there is some common object. Each common object has a usual use which will be given to you. You are to use your imagination and list all of the other uses you can think of for this object. Now look at the example.

EXAMPLE: A shoe is usually used to wear on your foot. For what other things could you use a shoe?

You might think of some uses such as the following:

1. to drive a nail
2. to use as a door stopper
3. use the shoelace to tie a package
4. as a paper weight to hold papers down

Of course, there are many other uses that could be written. Notice that all of the uses are different from each other and different from the usual use of a shoe which is to wear on your foot.

There is one object on each page. You will have so much time on each page. When the signal is given (not yet) turn the page and begin. If you finish a page before time is called WAIT for the signal before going to the next page. Once time is called on a page you may not go back to that page.

Remember each use you give must be different from the others you give for that object and different from the usual use which is given to you.

Do not use any of the above examples for answers on the following pages.

Are there any questions?

A brick is usually used in making a building. Write down all the other things for which a brick might be used.

STOP HERE. WAIT FOR FURTHER DIRECTIONS.

A key is usually used to open a lock. List all the other things for which you might use a key.

STOP HERE. WAIT FOR FURTHER DIRECTIONS.

A stocking is usually used to wear on your foot. For what other things could you use a stocking?

STOP HERE. WAIT FOR FURTHER DIRECTIONS.

A newspaper is usually used for reading. List all the other things for which you could use a newspaper.

STOP HERE. WAIT FOR FURTHER DIRECTIONS.

A button is usually used to fasten things. For what other things might you use a button?

STOP HERE. WAIT FOR FURTHER DIRECTIONS.

A milk carton is usually used for holding milk. List all the other things for which you might use a milk carton.

STOP HERE. WAIT FOR FURTHER DIRECTIONS.

CASE STUDY FORM

CASE STUDY

Date:

Name:

Address:

School: Grade:

Teacher:

I. Psychological Findings:

Stanford-Binet

IQ CA MA Date

WISC

FS IQ VS IQ PS IQ Date

Vineland

Age Equivalent Social Quotient Date

II. Achievement Test Results:

	Expectancy	Achievement	Degree of Discrepancy	Average Discrepancy
Reading				
Arithmetic				

III. School Adjustment:

A. Academic

B. Social

C. Emotional

D. Physical

IV. Family Background:

V. Summary of Factors Contributing to Under or Over Achievement.

TEACHER INTERVIEW

TEACHER INTERVIEW

(Conducted by the Consultant for the Gifted)

I. General Attitude Toward School

A. Does the child seem to enjoy school? Give reasons that lead you to make this assumption.

B. What indications have you had from parents in regard to the child's attitude toward school?

II. Academic Progress

A. What grades were recorded on his report card?

Reading _____ Spelling_____ English _____ Arithmetic_____

Social Studies _____ Health _____ Science _____ Writing _____

B. Has he established good work habits? Give examples of independent work and work with groups. Does he get his work in on time?

C. Does he show evidence of having original ideas? Give examples.

D. Are his ideas well organized? Explain.

E. Is he able to see several solutions to a problem or does he tend to fixate on one solution? Give examples.

F. Does he give evidence of being creative in writing?

1. Does he write creative stories? Poems?

2. Does he write only one story to a stimulus picture or idea or does he see this as a springboard for new ideas?

3. Does he do creative writing on his own initiative or only when suggested by others?

4. Does his creative writing tend to be factual rather than creative?

G. When he makes a decision are his decisions practical? Unusual? Inappropriate? Sound? Give examples.

H. What kinds of books does he read? How many per month?

I. How does he use his free time at school? At home? What hobbies or special interests does he have?

J. How is he grouped for instructional purposes?

K. Do you feel he is working up to his ability? Explain.

L. Is he willing to do work beyond the regular assignment?

M. Is he cooperative in his academic work? Give examples.

N. Does he seem highly motivated to learn? Does his drive to achieve seem to be for intrinsic or extrinsic reasons? Explain.

III. Social Adjustment

A. Does he appear to be well accepted in the group? Give examples and reasons why you think this is true.

B. Does he display social leadership? Is he willing to share ideas with the group? Does his peers accept his ideas?

C. Is he accepting of others? Give reasons for your judgment.

D. Do others come to him for help? Does he give help willingly? Explain.

E. Does he seem to have friends outside of school? Are they his age? Younger? Older? Are these friends of comparable intellectual ability?

F. Does he seem to feel at ease in a group of his peers? Adults?

G. Does he present behavior problems? Give examples.

IV. Emotional Adjustment

A. Does he display emotions? How?

B. Is he restrained? Explain.

C. Does he seem tense? Explain.

D. Are there situations which seem to particularly upset him? Describe.

V. Health and Physical Development

A. How does he compare in size to others in the class? Does his size seem to have any effect on his adjustment?

B. Is his attendance regular? If not, what reasons are given for absences?

C. Does he have any physical defects?

VI. Conferences with Parents

A. What problems, if any, are of concern to the parents? What have they done about these problems?

B. Do they see the child as gifted? Achieving up to his ability?

C. Do the parents seem interested in the child and his progress?